2017

VOLT

Owner's Manual

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DEP
DEALER E-PROCESS

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Introduction



The names, logos, emblems, slogans, vehicle model names, and vehicle body designs appearing in this manual including, but not limited to, GM, the GM logo, CHEVROLET, the CHEVROLET Emblem, VOLT, and the VOLT logo are trademarks and/or service marks of General Motors LLC, its subsidiaries, affiliates, or licensors.

For vehicles first sold in Canada, substitute the name “General Motors of Canada Company” for Chevrolet Motor Division wherever it appears in this manual.

This manual describes features that may or may not be on the vehicle because of optional equipment that was not purchased on the vehicle, model variants, country specifications, features/applications that may not be available in your region, or changes subsequent to the printing of this owner manual.

Refer to the purchase documentation relating to your specific vehicle to confirm the features.

Keep this manual in the vehicle for quick reference.

Canadian Vehicle Owners

A French language manual can be obtained from your dealer, at www.helminc.com, or from:

Propriétaires Canadiens

On peut obtenir un exemplaire de ce guide en français auprès du concessionnaire ou à l'adresse suivante:

Helm, Incorporated
Attention: Customer Service
47911 Halyard Drive
Plymouth, MI 48170
USA

Using this Manual

To quickly locate information about the vehicle, use the Index in the back of the manual. It is an alphabetical list of what is in the manual and the page number where it can be found.

Litho in U.S.A.
Part No. 23452967 A First Printing

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Danger, Warning, and Caution

Warning messages found on vehicle labels and in this manual describe hazards and what to do to avoid or reduce them.

⚠ Danger

Danger indicates a hazard with a high level of risk which will result in serious injury or death.

⚠ Warning

Warning indicates a hazard that could result in injury or death.

Caution

Caution indicates a hazard that could result in property or vehicle damage.



A circle with a slash through it is a safety symbol which means “Do Not,” “Do not do this,” or “Do not let this happen.”

Symbols

The vehicle has components and labels that use symbols instead of text. Symbols are shown along with the text describing the operation or information relating to a specific component, control, message, gauge, or indicator.

: Shown when the owner manual has additional instructions or information.

: Shown when the service manual has additional instructions or information.

: Shown when there is more information on another page — “see page.”

Vehicle Symbol Chart

Here are some additional symbols that may be found on the vehicle and what they mean. For more information on the symbol, refer to the Index.

: Airbag Readiness Light

: Air Conditioning

: Antilock Brake System (ABS)

/ : Audio Steering Wheel Controls or OnStar®

BRAKE : Brake System Warning Light

: Charging System (12-Volt Battery)

: Cruise Control

: Do Not Puncture

: Do Not Service

: Electric Parking Brake

: Electronic Stability Control (ESC)

: Engine Coolant Temperature

: Exterior Lamps

! : Fault

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: First Responder

: Flame/Fire Prohibited

: Fuel Gauge

: Fuses

: Headlamp High/Low-Beam Changer

: High Voltage

: LATCH System Child Restraints

: Malfunction Indicator Lamp

: Oil Pressure

: Power

: Remote Vehicle Start

: Safety Belt Reminders

: StabiliTrak® Disable

: Tire Pressure Monitor

: Traction Control System (TCS) Disable

: Under Pressure

READY : Vehicle Ready

: Windshield Washer Fluid

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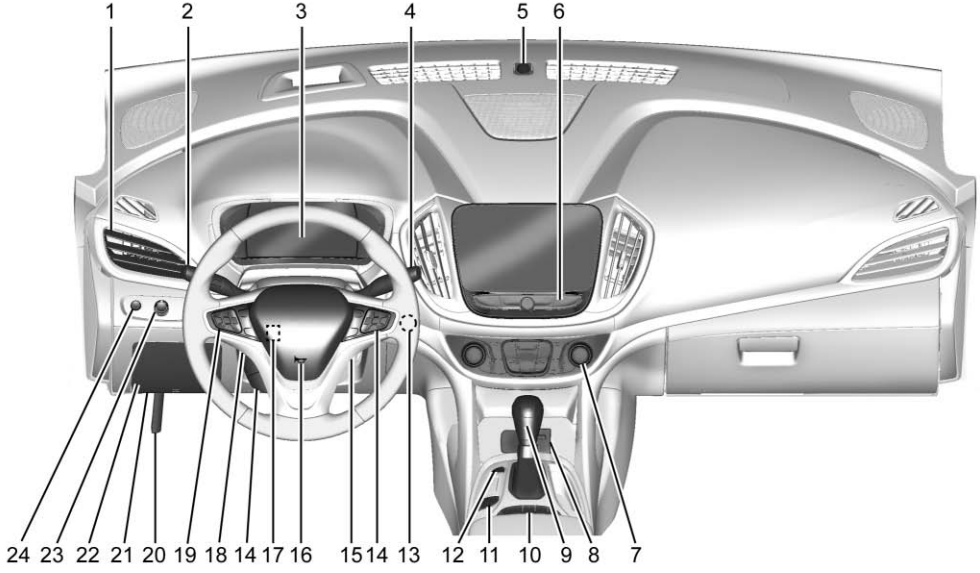
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Instrument Panel



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1. *Air Vents* ⇨ *162*.
2. Turn Signal Lever. See *Turn and Lane-Change Signals* ⇨ *153*.

 IntelliBeam® System Button (If Equipped). See *Exterior Lamp Controls* ⇨ *149*.
3. *Instrument Cluster* ⇨ *101*.

 Driver Information Center (DIC) Display. See *Driver Information Center (DIC)* ⇨ *130*.
4. *Windshield Wiper/Washer* ⇨ *97*.
5. Charging Status Indicator. See *Charging Status Feedback* ⇨ *217*.

 Light Sensor. See *Daytime Running Lamps (DRL)* ⇨ *151*.
6. Infotainment. See *Infotainment* ⇨ *156*.

 Navigation System (If Equipped). See the navigation manual.
7. *Automatic Climate Control System* ⇨ *157*.

 Heated Front Seats ⇨ *54* (If Equipped).
8. *Power Outlets* ⇨ *99*.

 USB Port. See *Infotainment* ⇨ *156*.

 Auxiliary Jack. See *Infotainment* ⇨ *156*.
9. Shift Lever. See *Electric Drive Unit* ⇨ *186*.
10. Drive MODE Button. See *Driver Selected Operating Modes* ⇨ *181*.

 Assistance Systems for Parking or Backing ⇨ *204* (If Equipped).

 Traction Control/Electronic Stability Control ⇨ *192*.
11. *Hazard Warning Flashers* ⇨ *152*.
12. *Electric Parking Brake* ⇨ *188*.
13. *Power Button* ⇨ *175*.
14. *Steering Wheel Controls* ⇨ *96*.
15. Audio Controls (Out of View) (If Equipped). See *Steering Wheel Controls* ⇨ *96*.
16. *Horn* ⇨ *97*.
17. *Steering Wheel Adjustment* ⇨ *96* (Out of View).
18. Regen on Demand Paddles (Out of View). See *Regenerative Braking* ⇨ *190*.
19. *Cruise Control* ⇨ *194*.

 Heated Steering Wheel ⇨ *96* (If Equipped).

 Forward Collision Alert (FCA) System ⇨ *208* (If Equipped).

 Lane Keep Assist (LKA) ⇨ *213* (If Equipped).
20. Hood Release. See *Hood* ⇨ *240*.
21. Data Link Connector (DLC) (Out of View). See *Malfunction Indicator Lamp (Check Engine Light)* ⇨ *109*.
22. Instrument Panel Fuse Door. See *Instrument Panel Fuse Block* ⇨ *266*.
23. *Exterior Lamp Controls* ⇨ *149*.
24. *Instrument Panel Illumination Control* ⇨ *153*.

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Initial Drive Information

This section provides a brief overview about some of the important features that may or may not be on your specific vehicle.

For more detailed information, refer to each of the features which can be found later in this owner manual.

Remote Keyless Entry (RKE) System

The RKE transmitter may work up to 60 m (197 ft) away from the vehicle.



Press the key release button to release the key. The key can be used for all locks.

: Press once to unlock the driver door. Press a second time within five seconds to unlock all doors.

: Press to lock all doors.

Lock and unlock feedback can be personalized. See *Vehicle Personalization* ⇨ *141*.

: Press and release to initiate vehicle locator. Press and hold for three seconds to sound the panic alarm. Press again to cancel the panic alarm.

: Press and release and then immediately press and hold for at least four seconds to start the vehicle's heating or air conditioning systems and rear window defogger from outside the vehicle using the RKE transmitter. See *Remote Start* ⇨ *36*.

See *Keys* ⇨ *29* and *Remote Keyless Entry (RKE) System Operation* ⇨ *30*.

Remote Start

Use remote start to heat or cool the interior when the vehicle is plugged in to maximize electric range by utilizing electricity from the electrical outlet. The engine may start to support the climate control operation. Normal operation of the system will return after the vehicle has been turned on.

Starting the Vehicle

1. Press and release on the RKE transmitter.
2. Immediately press and hold for at least four seconds or until the turn signal lamps flash.
3. After entering the vehicle during a remote start, press POWER with the brake pedal applied to operate as normal.

When the vehicle starts, the parking lamps will turn on.

Vehicle Run time can be extended.

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Canceling Remote Start

To cancel a remote start, do any of the following:

- Press and hold ⍝ until the parking lamps turn off.
- Turn on the hazard warning flashers.
- Press POWER ⏻ with the brake pedal applied, then press POWER ⏻ again to turn the vehicle off.

See *Remote Start* ⇨ *36*.

Door Locks

To lock or unlock the doors from outside the vehicle:

- Use the key. The driver door key cylinder is covered with a cap. See *Door Locks* ⇨ *39*.
- Press 🔓 or 🔒 on the RKE transmitter. See *Remote Keyless Entry (RKE) System Operation* ⇨ *30*.

To lock or unlock the doors from inside the vehicle:

- Press 🔓 or 🔒 on the power door lock switch.
- Push down the manual lock knob on the driver door to lock all doors. Push down the manual lock knob on a passenger door to lock only that door.
- Pull once on the door handle to unlock the door and again to open the door. Press the power door lock switch to lock or unlock all doors.

Power Door Locks

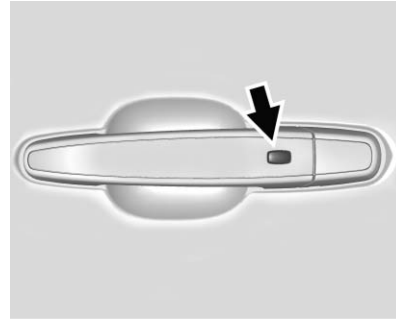


🔒 : Press to unlock.

🔓 : Press to lock.

See *Power Door Locks* ⇨ *40*.

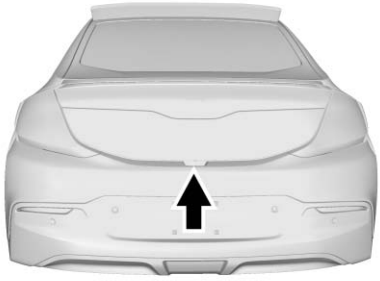
Keyless Access



When the Remote Keyless Entry (RKE) transmitter is within 1 m (3 ft) of the driver door, the door can be locked and unlocked by pressing the door handle button. When unlocking from the driver door, the first press will unlock only that door; press again within five seconds to unlock all passenger doors. See *Remote Keyless Entry (RKE) System Operation* ⇨ *30*.

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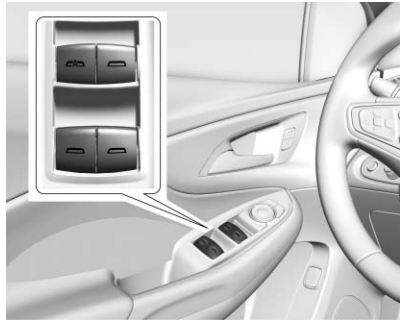
Hatch



To open the hatch, press the touch pad on the underside of the hatch and lift after unlocking all doors. See *Hatch* ⇨ *42*.

Keyless Access : Press the touch pad on the underside of the hatch and lift up when the RKE transmitter is within 1 m (3 ft) of the rear of the vehicle. See *Remote Keyless Entry (RKE) System Operation* ⇨ *30*.

Windows



The window switches on the driver door control all windows. Each passenger door has a switch that controls only that window.

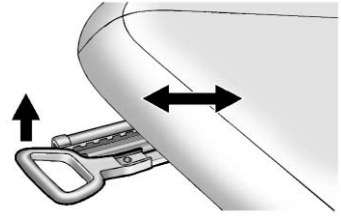
Press the switch to lower the window. Pull the switch to raise it.

The driver and passenger windows have an express-down feature and the driver window has express-up.

See *Power Windows* ⇨ *47*.

Seat Adjustment

Seat Position



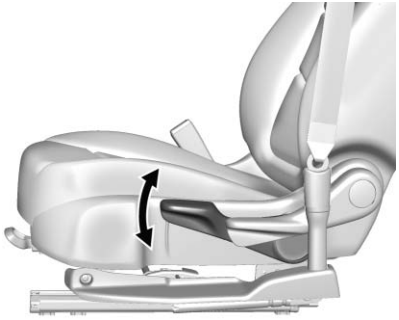
To adjust the seat position:

1. Pull the handle at the front of the seat cushion to unlock it.
2. Move the seat forward or rearward and release the handle.
3. Try to move the seat back and forth to be sure it is locked in place.

See *Seat Adjustment* ⇨ *52*.

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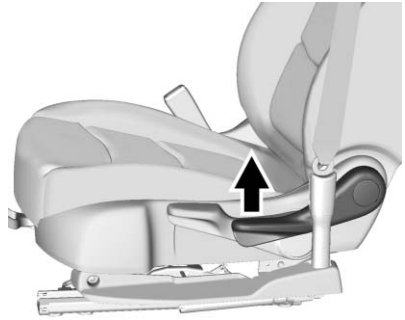
Height Adjustment



Move the lever up or down to raise or lower the seat.

See “Seat Height Adjuster” under *Seat Adjustment* ⇨ *52*.

Reclining Seatbacks



To recline the seatback:

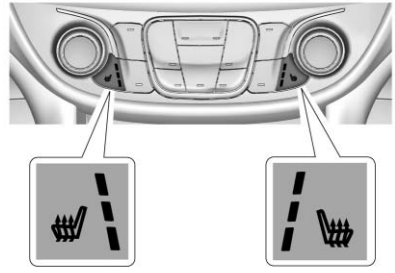
1. Lift the lever.
2. Move the seatback to the desired position, and then release the lever to lock the seatback in place.
3. Push and pull on the seatback to make sure it is locked.

To return the seatback to the upright position:

1. Lift the lever fully without applying pressure to the seatback, and the seatback will return to the upright position.
2. Push and pull on the seatback to make sure it is locked.

See *Reclining Seatbacks* ⇨ *53*.

Heated Seats



The controls are on the center stack. To operate, the vehicle must be on.

Press or to heat the driver or passenger seat.

Press the button once for the highest setting. With each press of the button, the heated seat will change to the next lower setting,

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and then the off setting. Three lights indicate the highest setting and one light the lowest.

See *Heated Front Seats* ⇨ *54*.

Auto Heated Seats

If equipped, the controls can be accessed while the vehicle is on by pressing or on the center stack.

When the vehicle is on, this feature will automatically activate the heated seats at the level required by the vehicle's interior temperature. The active high, medium, low, or off heated seat level will be indicated by the heated seat button lights on the center stack. Use the heated seat buttons on the center stack to turn auto heated seats off.

See *Heated Front Seats* ⇨ *54*.

The heated seats can also be programmed to come on during a remote start. See *Vehicle Personalization* ⇨ *141*.

Head Restraint Adjustment

Do not drive until the head restraints for all occupants are installed and adjusted properly.

To achieve a comfortable seating position, change the seatback recline angle as little as necessary while keeping the seat and the head restraint height in the proper position.

See *Head Restraints* ⇨ *51* and *Seat Adjustment* ⇨ *52*.

Safety Belts



Refer to the following sections for important information on how to use safety belts properly:

- *Safety Belts* ⇨ *57*.
- *How to Wear Safety Belts Properly* ⇨ *58*.
- *Lap-Shoulder Belt* ⇨ *59*.
- *Lower Anchors and Tethers for Children (LATCH System)* ⇨ *82*.

Passenger Sensing System



The passenger sensing system will turn off the front outboard passenger frontal airbag and knee airbag under certain conditions. No other airbag is affected by the passenger sensing system. See *Passenger Sensing System* ⇨ *69*.

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The passenger airbag status indicator lights on the overhead console are visible when the vehicle is started. See *Passenger Airbag Status Indicator* ⇨ *108*.

Mirror Adjustment

Power Mirrors



To adjust a mirror:

1. Press ▭◂ or ▸▭ to choose the driver or passenger mirror.
2. Press the arrows on the control pad to move each mirror in the desired direction.

See *Power Mirrors* ⇨ *46*.

When the rear window defogger is activated, the heated mirrors, if equipped, will also come on. See *Heated Mirrors* ⇨ *46*.

Folding Mirrors

Mirrors can be folded inward toward the vehicle to prevent damage when going through an automatic car wash. Push the mirror outward to return it to the original position.

Interior Mirror

Adjust the rearview mirror for a clear view of the area behind your vehicle.

Manual Rearview Mirror

If equipped, push the tab forward for daytime use and pull it for nighttime use to avoid glare of the headlamps from behind. See *Manual Rearview Mirror* ⇨ *46*.

Automatic Dimming Rearview Mirror

If equipped, the mirror will automatically reduce the glare of headlamps from behind. The dimming feature comes on when the vehicle is started. See *Automatic Dimming Rearview Mirror* ⇨ *46*.

Steering Wheel Adjustment



To adjust the steering wheel:

1. Pull the lever down.
2. Move the steering wheel up or down.
3. Pull or push the steering wheel closer or away from you.
4. Pull the lever up to lock the steering wheel in place.

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Do not adjust the steering wheel while driving.

Interior Lighting

Dome Lamps



The dome lamp controls are in the overhead console.

To operate, press the following buttons:

OFF : Press to turn off the dome lamps when a door is open. An LED indicator on the button will turn on when the dome lamp override is activated. Press OFF again to deactivate this feature and the LED indicator will turn off. The dome lamps will come on when doors are opened.

ON/OFF : Press to turn the dome lamps on manually.

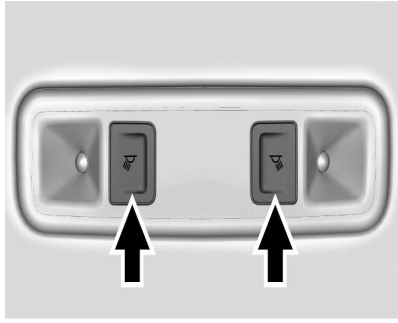
Reading Lamps

There are front and rear reading lamps.



The front reading lamps are in the overhead console.

Press the lamp lenses to turn the front reading lamps on or off.



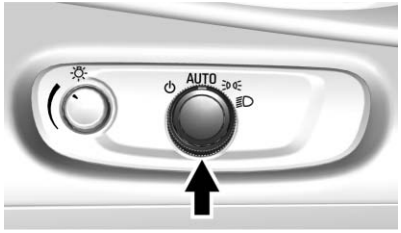
The rear reading lamps are in the headliner.

Press the button near each lamp to turn the rear reading lamps on or off.

For more information on interior lighting, see *Instrument Panel Illumination Control* ⇨ *153*.

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Exterior Lighting



The exterior lamp control is on the instrument panel to the left of the steering column.

There are four positions.

⏻ **:** Turns the exterior lamps off.

AUTO : Turns the exterior lamps on and off automatically depending on outside lighting.

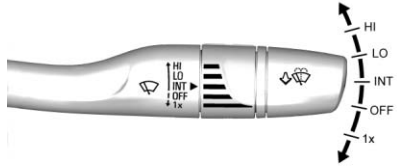
: Turns on the parking lamps including all lamps, except the headlamps.

: Turns on the headlamps together with the parking lamps and instrument panel lights.

See:

- *Exterior Lamp Controls* ⇨ *149*.
- *Daytime Running Lamps (DRL)* ⇨ *151*.

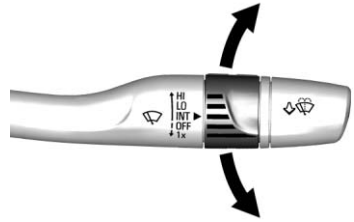
Windshield Wiper/Washer



With the ignition in ACC/ ACCESSORY or ON/RUN, move the lever to select the wiper speed.

HI : Use for fast wipes.

LO : Use for slow wipes.



INT : Move the lever up to INT for intermittent wipes, then turn the band up for more frequent wipes or down for less frequent wipes.

OFF : Use to turn the wipers off.

1X : For a single wipe, briefly move the lever down. For several wipes, hold the lever down.

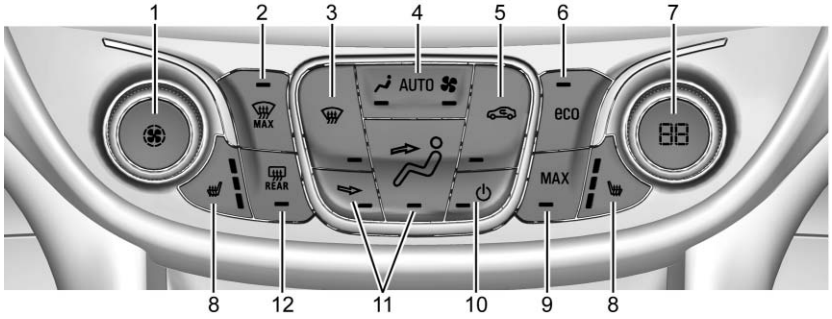
: Pull the lever toward you to spray windshield washer fluid and activate the wipers.

See *Windshield Wiper/Washer* ⇨ *97*.

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Climate Controls

The heating, cooling, and ventilation for the vehicle can be controlled with this system.



1. Manual Fan Control Knob
2. MAX Defrost
3. Defrost/Defog
4. AUTO (Automatic Operation)
5. Recirculation
6. eco Climate Mode Button
7. Temperature Control Knob
8. Driver and Passenger Heated Seats (If Equipped)
9. MAX Climate Mode Button
10. Power Button
11. Air Delivery Mode Controls
12. Rear Window Defogger

See *Automatic Climate Control System* ⇨ *157*.

Vehicle Features

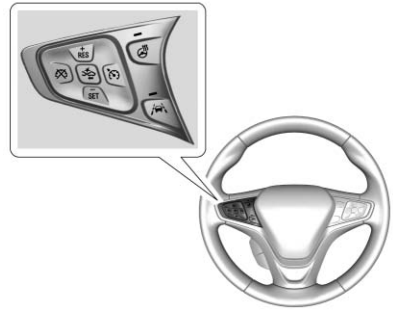
Infotainment System

Your vehicle has an infotainment system. See the infotainment manual.

Steering Wheel Controls

The infotainment system can be operated by using the steering wheel controls. See "Steering Wheel Controls" in the infotainment manual.

Cruise Control



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: Press to turn the cruise control system on and off. A white indicator comes on in the instrument cluster when cruise is turned on.

: Press to disengage cruise control without erasing the set speed from memory.

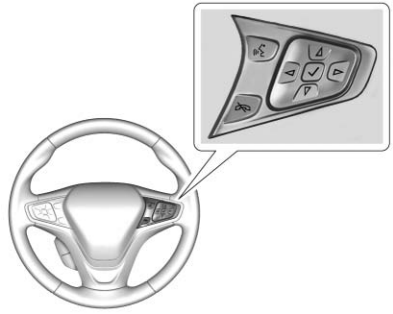
+RES : If there is a set speed in memory, press to resume that speed or press and hold to accelerate. If cruise control is already active, use to increase vehicle speed.

−SET : Press briefly to set the speed and activate cruise control. If cruise control is already active, use to decrease vehicle speed.

See *Cruise Control* ⇨ *194*.

Driver Information Center (DIC)

The DIC display is in the instrument cluster. It shows the status of many vehicle systems.



△ **or** ▽ **:** Press to go to the previous or next selection.

◁ **or** ▷ **:** Press to move between the interactive display zones in the cluster. Press ◁ to go back to the previous menu.

✓ **:** Press to open a menu or select a menu item. Press and hold to reset values on certain screens.

See *Instrument Cluster* ⇨ *101* and *Driver Information Center (DIC)* ⇨ *130*.

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Forward Collision Alert (FCA) System

If equipped, FCA may help avoid or reduce the harm caused by front-end crashes. FCA provides a green indicator, , when a vehicle is detected ahead. This indicator displays amber if you follow a vehicle much too closely. When approaching a vehicle ahead too quickly, FCA provides a red flashing alert on the windshield and rapidly beeps.

See *Forward Collision Alert (FCA) System* ⇨ *208*.

Forward Automatic Braking (FAB)

If the vehicle has Forward Collision Alert (FCA), it also has FAB, which includes Intelligent Brake Assist (IBA). When the system detects a vehicle ahead in your path that is traveling in the same direction that you may be about to crash into, it can provide a boost to braking or automatically brake the

vehicle. This can help avoid or lessen the severity of crashes when driving in a forward gear.

See *Forward Automatic Braking (FAB)* ⇨ *210*.

Lane Keep Assist (LKA)

If equipped, LKA may help avoid crashes due to unintentional lane departures. It may assist by gently turning the steering wheel if the vehicle approaches a detected lane marking without using a turn signal in that direction. It may also provide a Lane Departure Warning (LDW) alert as the lane marking is crossed. The system will not assist or alert if it detects that you are actively steering. Override LKA by turning the steering wheel. LKA uses a camera to detect lane markings between 60 km/h (37 mph) and 180 km/h (112 mph).

See *Lane Departure Warning (LDW)* ⇨ *213* and *Lane Keep Assist (LKA)* ⇨ *213*.

Lane Change Alert (LCA)

If equipped, the LCA system is a lane-changing aid that assists drivers with avoiding lane change crashes that occur with moving vehicles in the side blind zone (or spot) areas or with vehicles rapidly approaching these areas from behind. The LCA warning display will light up in the corresponding outside side mirror and will flash if the turn signal is on. The Side Blind Zone Alert (SBZA) system is included as part of the LCA system.

See *Side Blind Zone Alert (SBZA)* ⇨ *211* and *Lane Change Alert (LCA)* ⇨ *211*.

Rear Vision Camera (RVC)

If equipped, RVC displays a view of the area behind the vehicle on the center stack display when the vehicle is shifted into R (Reverse) to aid with parking and low-speed backing maneuvers.

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See *Assistance Systems for Parking or Backing* ⇨ *204*.

Rear Cross Traffic Alert (RCTA) System

If equipped, the RCTA system uses a triangle with an arrow displayed on the RVC screen to warn of traffic behind your vehicle that may cross your vehicle's path while in R (Reverse). In addition, beeps will sound.

See *Assistance Systems for Parking or Backing* ⇨ *204*.

Parking Assist

If equipped, Rear Parking Assist (RPA) uses sensors on the rear bumper to assist with parking and avoiding objects while in R (Reverse). It operates at speeds less than 8 km/h (5 mph). RPA may display a warning triangle on the RVC screen and a graphic on the instrument cluster to provide the object distance. In addition, multiple beeps may occur if very close to an object.

The vehicle may also have the Front Parking Assist system.

See *Assistance Systems for Parking or Backing* ⇨ *204*.

Automatic Parking Assist (APA)

If equipped, the APA system helps to search for and maneuver the vehicle into parallel or perpendicular parking spots using automatic steering, DIC displays, and beeps. When the vehicle speed is below 30 km/h (18 mph), press P to enable the system.

See “Automatic Parking Assist (APA)” under *Assistance Systems for Parking or Backing* ⇨ *204*.

Power Outlets

The accessory power outlets can be used to plug in electrical equipment, such as a cell phone or MP3 player.

There are two accessory power outlets:

- In the storage area below the climate control system.
- On the rear of the front console armrest.

The power outlets supply power while the vehicle is on, or if the vehicle is in Retained Accessory Power (RAP). See *Retained Accessory Power (RAP)* ⇨ *177*.

Lift the cover to access and replace when not in use.

See *Power Outlets* ⇨ *99*.

Battery and Efficiency

High Voltage Safety Information

⚠ Warning

Exposure to high voltage can cause shock, burns, and even death. The high voltage components in the vehicle can only be serviced by technicians with special training.

High voltage components are identified by labels. Do not remove, open, take apart, or modify these components. High voltage cable or wiring has orange covering or labels. Do not probe, tamper with, cut, or modify high voltage cable or wiring.

This vehicle has a high voltage battery and a standard 12-volt battery.

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If the vehicle is in a crash, the sensing system may shut down the high voltage system. When this occurs, the high voltage battery is disconnected and the vehicle will not start. The SERVICE VEHICLE SOON message in the Driver Information Center (DIC) will be displayed. Before the vehicle can be operated again, it must be serviced at your dealer.

⚠ Warning

Damage to the high voltage battery or high voltage system can create a risk of electric shock, overheating, or fire.

If the vehicle is damaged from a moderate to severe crash, flood, fire, or other event, the vehicle should be inspected as soon as possible. Until the vehicle has been inspected, store it outside at least 15 m (50 ft) from any structure or anything that can burn. Ventilate the vehicle by opening a window or a door.

(Continued)

Warning (Continued)

Contact Customer Assistance as soon as possible to determine whether an inspection is needed. See *Customer Assistance Offices* ⇨ *343*.

See *Battery - North America* ⇨ *256* for important safety information. If an airbag has inflated, see *What Will You See after an Airbag Inflates?* ⇨ *68*.

Only a trained service technician with the proper knowledge and tools should inspect, test, or replace the high voltage battery. See your dealer if the high voltage battery needs service.

See *Battery - North America* ⇨ *256*.

Charging

This section explains the process for charging the high voltage battery. Do not allow the vehicle to remain in temperature extremes for long periods without being driven or plugged in. It is recommended that the vehicle be plugged in when temperatures are below 0 °C (32 °F) and above 32 °C (90 °F) to maximize high voltage battery life.

When using a 120-volt AC electrical outlet, it will take approximately 13 hours to charge the vehicle with the 12 amp AC current setting or 19 hours using the default 8 amp AC current setting. When using a 240-volt charging station, it will take approximately 4.5 hours to charge the vehicle. Charge times will vary with outside temperature. There are three ways to program how the vehicle is charged. See *Programmable Charging* ⇨ *119*.

The charging system may run fans and pumps that result in sounds from the vehicle while it is turned off. Additional unexpected clicking sounds may be caused by the electrical devices used while charging.

While the charge cord is plugged into the vehicle, the vehicle cannot be driven.

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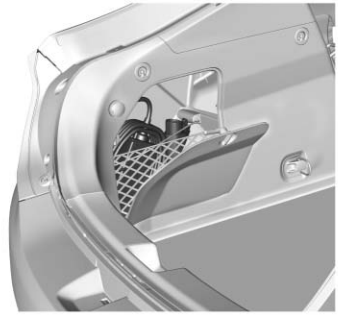
Charging

Start Charge

A portable charge cord used to charge the vehicle high voltage battery is stored in the left storage compartment in the rear cargo area.

1. Place the vehicle in P (Park) with the ignition off.
2. Push the rearward edge of the charge port door in and release to open the door.

 In cold weather conditions, ice may form around the charge port door. Remove ice from the area before attempting to open or close the charge port door.



3. Open the rear hatch. Open the left storage compartment door and remove the charge cord. The vehicle plug is stored as shown.
4. Plug the charge cord into the electrical outlet. See *Electrical Requirements for Battery Charging* ⇨ *229*. Verify the charge cord status. See *Charge Cord* ⇨ *222*. Select the appropriate charge level using the Charge Limit Preference screen on the center stack. See “Charge Limit Selection” under *Programmable Charging* ⇨ *119*.

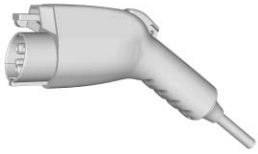


5. Plug in the vehicle plug of the charge cord into the charge port on the vehicle. Verify that the charging status indicator illuminates on top of the instrument panel and an audible beep occurs. See *Charging Status Feedback* ⇨ *217*.
6. To arm the charge cord theft alert, lock the vehicle with the RKE transmitter. To disable this feature, see “Charge Cord Theft Alert” in *Vehicle Personalization* ⇨ *141*.

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End Charge

1. Unlock the vehicle with the RKE transmitter to disarm the charge cord theft alert.



2. Unplug the vehicle plug of the charge cord from the vehicle.
3. Close the charge port door by pressing firmly on the rearward edge of the door surface.
4. Unplug the charge cord from the electrical outlet.
5. Place the charge cord into the storage compartment.

Charge Cord

See *Radio Frequency Statement* ⇨ *351*.

Important Information about Portable Electric Vehicle Charging

- Charging an electric vehicle can stress a building's electrical system more than a typical household appliance.
- Before plugging into any electrical outlet, have a qualified electrician inspect and verify the electrical system (electrical outlet, wiring, junctions, and protection devices) for heavy-duty service at a 12 amp continuous load.
- Electrical outlets may wear out with normal usage or be damaged over time, making them unsuitable for electric vehicle charging.
- Check the electrical outlet/plug while charging and discontinue use if the electrical outlet/plug is hot, then have the electrical outlet serviced by a qualified electrician.
- When outdoors, plug into an electrical outlet that is weatherproof while in use.
- Mount the charging cord to reduce strain on the electrical outlet/plug.

⚠ Danger

Improper use of portable electric vehicle charge cords may cause a fire, electrical shock, or burns, and may result in damage to property, serious injury, or death.

- Do not use extension cords, multi-outlet power strips, splitters, grounding adaptors, surge protectors, or similar devices.
- Do not use an electrical outlet that is worn or damaged, or will not hold the plug firmly in place.
- Do not use an electrical outlet that is not properly grounded.
- Do not use an electrical outlet that is on a circuit with other electrical loads.

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Charge Cord Status Indicators

See *Charge Cord* ⇨ *222*.

Charge Level Selection

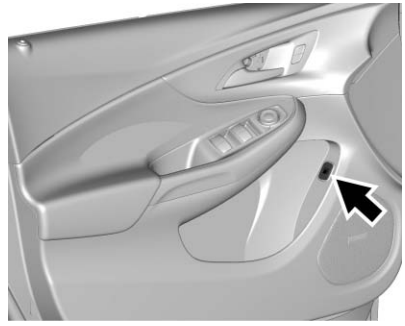
Charge level selection can be made using the Charge Limit Preference screen on the center stack. See “Charge Limit Selection” under *Programmable Charging* ⇨ *119*.

⚠ Warning

Using a charge level that exceeds the electrical circuit or electrical outlet capacity may start a fire or damage the electrical circuit. Use the lowest charge level until a qualified electrician inspects the electrical circuit capacity. Use the lowest charge level if the electrical circuit or electrical outlet capacity is not known.

Fueling

The fuel system on this vehicle requires a refueling process to control evaporative emissions. To refuel the vehicle:



1. Press the fuel door button on the driver door for one second. A WAIT TO REFUEL message displays on the Driver Information Center.



2. When the READY TO REFUEL message displays, the fuel door on the passenger side will unlock. To open the fuel door, push and release the rearward center edge of the door.
3. Turn the fuel cap counterclockwise to remove. While refueling, hang the fuel cap tether from the hook on the inside of the fuel door. Complete refueling within 30 minutes of pressing the fuel door button on the driver door. If refueling after more than 30 minutes, press the fuel door button again.
4. After refueling, reinstall the fuel cap by turning it clockwise until it clicks. Close the fuel door.

See *Filling the Tank* ⇨ *231*.

Regenerative Braking

Regenerative braking takes some of the energy from the moving vehicle and turns it back into electrical energy. This energy is then stored in

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the high voltage battery system, contributing to increased energy efficiency.

Regen on Demand®

This feature will slow the vehicle by recapturing energy using the steering wheel paddle.

See *Regenerative Braking* ⇨ *190*.

Service

⚠ Warning

Never try to do your own service on high voltage components. You can be injured and the vehicle can be damaged if you try to do your own service work. Service and repair of these high voltage components should only be performed by a trained service technician with the proper knowledge and tools. See *Doing Your Own Service Work* ⇨ *239*.

Performance and Maintenance

Traction Control/ Electronic Stability Control

The TCS limits wheel spin. The system turns on automatically every time the vehicle is powered up.

The Electronic Stability Control system called StabiliTrak assists with directional control of the vehicle in difficult driving conditions. The system turns on automatically every time the vehicle is on.

- To turn off traction control, press and release OFF, on the center console behind the shift lever. illuminates and the appropriate Driver Information Center (DIC) message is displayed. See *Ride Control System Messages* ⇨ *138*.
- To turn off both traction control and StabiliTrak, press and hold OFF, until and OFF come on and stay on in the instrument cluster and the appropriate DIC message is displayed. See *Ride Control System Messages* ⇨ *138*.
- Press and release OFF to turn on both systems.

See *Traction Control/Electronic Stability Control* ⇨ *192*.

Tire Pressure Monitor

This vehicle may have a Tire Pressure Monitor System (TPMS).



The low tire pressure warning light alerts to a significant loss in pressure of one of the vehicle's tires. If the warning light comes on, stop as soon as possible and inflate the tires to the recommended pressure shown on the Tire and Loading Information label. See

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Vehicle Load Limits ⇨ *171*. The warning light will remain on until the tire pressure is corrected.

The low tire pressure warning light may come on in cool weather when the vehicle is first started, and then turn off as the vehicle is driven. This may be an early indicator that the tire pressures are getting low and the tires need to be inflated to the proper pressure.

The TPMS does not replace normal monthly tire maintenance. Maintain the correct tire pressures.

See *Tire Pressure Monitor System* ⇨ *280*.

Fuel



Regular Fuel

Use only unleaded gasoline rated 87 octane or higher in your vehicle. Do not use gasoline with an octane rating lower as it may result in vehicle damage and lower fuel economy. See *Fuel* ⇨ *230*.

E85 or FlexFuel



No E85 or FlexFuel

Gasoline-ethanol fuel blends greater than E15 (15% ethanol by volume), such as E85, cannot be used in this vehicle.

Engine Oil Life System

The engine oil life system calculates engine oil life based on vehicle use and displays the CHANGE ENGINE OIL SOON message when it is time to change the engine oil and filter.

The oil life system should be reset to 100% only following an oil change.

Resetting the Oil Life System

1. Select REMAINING OIL LIFE on the DIC menu.
2. Press and hold ✓ for several seconds while the Oil Life display is active to reset the Oil Life system.
3. 100% OIL LIFE will be displayed when the oil life system is successfully reset.

The oil life system can also be reset as follows:

1. Turn the ignition to ON/RUN with the engine off.
2. Fully press and release the accelerator pedal three times within five seconds.

See *Engine Oil Life System* ⇨ *245*.

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Driving for Better Energy Efficiency

Use the following tips to help maximize energy efficiency and range.

In colder temperatures, while these efficiency tips will help, the electric vehicle driving range may be lower due to higher energy usage.

Driving Style

Efficiency Gauge (Instrument Cluster)

The ball indicator should be kept green and toward the center of the gauge for efficient operation.

Inefficient acceleration is indicated when the ball turns yellow and travels above the center of the gauge.

Aggressive braking is indicated when the ball turns yellow and travels below the center of the gauge.

Acceleration/Braking/Coasting

Avoid unnecessary rapid accelerations and decelerations.

Electric range is maximized at 80 km/h (50 mph) and below. Higher speeds use more energy and can significantly reduce electric range.

Use cruise control when appropriate.

Plan ahead for decelerations and coast whenever possible. For example, do not rush to traffic signals.

Do not shift to N (Neutral) to coast. The vehicle recovers energy while coasting and braking in D (Drive) or L (Low).

Drive Mode and PRNDL Selection

Use Normal Mode when possible.

Sport Mode provides more responsive acceleration than Normal Mode but can reduce efficiency.

Use Mountain Mode prior to climbing long, steep grades in mountainous areas. Be sure to engage Mountain Mode before starting to climb. Mountain Mode reduces electric range and power but may be needed to maintain speeds or steep grades.

Use Hold Mode on a trip where it is expected that all of the electric charge will be depleted. Use Hold Mode mainly during highway or high speed driving to maximize both EV miles and fuel efficiency.

Use L (Low) in heavy stop-and-go traffic or when traveling downhill. L (Low) requires less brake pedal application and provides a controlled, efficient way to slow the vehicle down.

Climate Setting

Using the heat and air conditioning systems decreases the energy available for electric driving.

Optimal energy efficiency is achieved with the heat, air conditioning, and fan turned off.

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Less energy is used at low fan speeds. When using the fan:

- Fan Only is the most energy efficient climate setting as long as  is not selected.
- Use eco for moderate air conditioning and heater operation. This is the next most energy efficient setting as long as  is not selected.
- MAX provides the most comfort but is the least energy efficient.

Use the auto heated seat feature and the heated steering wheel instead of climate settings. Heating the seat and steering wheel uses less energy than heating the vehicle interior.

Use remote start to heat or cool the interior when the vehicle is plugged in to maximize the electric range by utilizing electricity from the electrical outlet.

Engine Assisted Heating, if equipped, can be personalized while plugged in. See “Engine Assist Heat Plugged In” under *Vehicle Personalization* ⇨ *141*.

In hot weather, avoid parking in direct sunlight or use sunshades inside the vehicle.

Turn off the front and rear window defog/defrost when they are no longer needed.

Avoid driving with the windows open at highway speeds.

Vehicle Charging/Maintenance

Charging

Keep the vehicle plugged in, even when fully charged, to keep the battery temperature ready for the next drive. This is important when outside temperatures are extremely hot or cold.

Maintenance

Always keep the tires properly inflated and the vehicle properly aligned.

The weight of excess cargo in the vehicle affects efficiency and range. Avoid carrying more than is needed.

If fuel is not regularly used, consider keeping the fuel tank only one-third full. Excess fuel weight impacts efficiency and range.

For fuel recommendations, see *Fuel* ⇨ *230*.

Avoid unnecessary use of electrical accessories. Power used for functions other than propelling the vehicle will reduce EV range.

Using a rooftop carrier will reduce efficiency due to additional weight and drag.

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Roadside Assistance Program

U.S.: 1-888-811-1926

TTY Users (U.S. Only): 1-888-889-2438

Canada: 1-800-268-6800

As the owner of a new Chevrolet, you are automatically enrolled in the Roadside Assistance program. This program provides security and convenience in the event of an on-road failure or emergency situation. Service is provided 24 hours a day, 365 days a year for the duration of the vehicle's powertrain warranty.

See *Roadside Assistance Program* ⇨ *345*.

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Keys, Doors, and Windows

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Keys and Locks

Keys

⚠ Warning

Leaving children in a vehicle with a Remote Keyless Entry (RKE) transmitter is dangerous and children or others could be seriously injured or killed. They could operate the power windows or other controls or make the vehicle move. The windows will function with the RKE transmitter in the vehicle, and children or others could be caught in the path of a closing window. Do not leave children in a vehicle with an RKE transmitter.

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There is a key inside the Remote Keyless Entry (RKE) transmitter that can be used for all locks.



To remove the key, press the button near the bottom of the RKE transmitter, and pull the key out. Never pull the key out without pressing the button.

The key has a bar-coded key tag that the dealer or qualified locksmith can use to make new keys. Store this information in a safe place, not in the vehicle.

See your dealer if a replacement key or an additional key is needed.

If it becomes difficult to turn the key in a vehicle lock, inspect the key blade for debris. Periodically clean with a brush or pick.

If locked out of the vehicle, call Roadside Assistance. See *Roadside Assistance Program* ⇨ *345*. With an active OnStar subscription, an OnStar Advisor may remotely unlock the vehicle. See *OnStar Overview* ⇨ *355*.

Remote Keyless Entry (RKE) System

See *Radio Frequency Statement* ⇨ *351*.

If there is a decrease in the RKE operating range:

- Check the distance. The transmitter may be too far from the vehicle.
- Check the location. Other vehicles or objects may be blocking the signal.
- Check the transmitter's battery. See “Battery Replacement” later in this section.
- If the transmitter is still not working correctly, see your dealer or a qualified technician for service.

Remote Keyless Entry (RKE) System Operation

The Keyless Access system allows for vehicle entry when the transmitter is within range. See “Keyless Access Operation” later in this section.

The RKE transmitter functions may work up to 60 m (197 ft) away from the vehicle.

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Other conditions, such as those previously stated, can impact the performance of the transmitter.



: Press once to unlock the driver door or all doors depending on the vehicle personalization. Press a second time within five seconds to unlock all doors.

See *Vehicle Personalization* ⇨ *141*.

The hazard warning lamps will flash twice each time the button is pressed and the alarm system will be disarmed. See *Vehicle Alarm System* ⇨ *43*.

For remote operating windows, pressing and holding will open all of the vehicle's windows. See *Power Windows* ⇨ *47*. This feature can be enabled through vehicle personalization. See *Vehicle Personalization* ⇨ *141*.

: Press to lock all doors. The hazard warning lamps will flash once and the alarm system will be armed. See *Vehicle Alarm System* ⇨ *43*.

If the driver door is open when is pressed, all doors lock and then the driver door will unlock if the feature is enabled through vehicle personalization. See *Vehicle Personalization* ⇨ *141*.

: Press and release to initiate vehicle locator. The exterior lamps flash and the horn chirps three times. Press and hold for three seconds to sound the panic alarm. The horn sounds and the turn signals flash for 30 seconds. Press again to cancel the panic alarm.

: Press and release and then immediately press and hold for at least four seconds to start the vehicle's heating or air conditioning systems and rear window defogger from outside the vehicle using the RKE transmitter. See *Remote Start* ⇨ *36*.

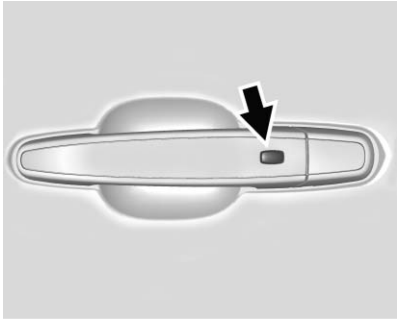
Keyless Access Operation

The Keyless Access system lets you lock and unlock the doors and access the hatch without removing the RKE transmitter from your pocket, purse briefcase, etc. The RKE transmitter should be within 1 m (3 ft) to lock and unlock the doors and access the hatch.

Keyless Access can be programmed to unlock all doors on the first lock/unlock press from the driver door. See *Vehicle Personalization* ⇨ *141*.

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Keyless Unlocking/Locking from the Driver Door



Driver Side Shown, Passenger Doors Similar

When the doors are locked and the RKE transmitter is within 1 m (3 ft) of the driver door handle, pressing the lock/unlock button on the driver door handle will unlock the driver door. If the lock/unlock button is pressed again within five seconds, all passenger doors will unlock. Pull the door handle to unlatch the door.

Pressing the lock/unlock button will cause all doors to lock if any of the following occur:

- It has been more than five seconds since the first lock/unlock button press.
- Two lock/unlock button presses were used to unlock all doors.
- Any vehicle door has opened and all doors are now closed.

Keyless Unlocking/Locking from Passenger Doors

When the doors are locked and the RKE transmitter is within 1 m (3 ft) of the door handle, pressing the lock/unlock button on that door handle will unlock all doors. Pressing the lock/unlock button will cause all doors to lock under any of the following conditions:

- After the lock/unlock button was used to unlock all doors.
- After any vehicle door has opened and all doors are now closed.

Passive Locking

The vehicle will lock several seconds after all doors are closed if the vehicle is off and at least one transmitter has been removed or none remain in the vehicle.

If other electronic devices interfere with the RKE transmitter signal, the vehicle may not detect the RKE transmitter inside the vehicle. If passive locking is enabled, the doors may lock with the RKE transmitter inside the vehicle. Do not leave the RKE transmitter in an unattended vehicle.

To customize the doors to automatically lock when exiting the vehicle, see *Vehicle Personalization* ⇨ *141*.

Temporary Disable of Passive Locking Feature

Temporarily disable the passive locking by pressing and holding on the interior door switch with a door open for at least four seconds, or until three chimes are heard. Passive locking will then remain

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disabled until on the interior door is pressed, or until the vehicle is turned on.

Remote Left in Vehicle Alert

When the vehicle is turned off and an RKE transmitter is left in the vehicle, the horn will chirp three times after all doors are closed. To turn on or off *Vehicle Personalization* ⇨ *141*.

Remote No longer in Vehicle

If the vehicle is on, with a door open, and then all doors are closed, the vehicle will check for RKE transmitter(s) inside. If an RKE transmitter is not detected, the DIC will display NO REMOTE DETECTED and the horn will chirp three times.

Keyless Hatch Opening

Press the button on the underside of the hatch and lift up to open if the RKE transmitter is within 1 m (3 ft) and the doors are locked. If the doors are unlocked, the transmitter is not required to open the hatch.

Keyed Access

To access a vehicle with a weak transmitter battery, see *Door Locks* ⇨ *39*.

Programming Transmitters to the Vehicle

Only RKE transmitters programmed to this vehicle will work. If a transmitter is lost or stolen, a replacement can be purchased and programmed through your dealer. When the replacement transmitter is programmed to this vehicle, all remaining transmitters must also be reprogrammed. Any lost or stolen transmitters will no longer work once the new transmitter is programmed. Each vehicle can have up to eight transmitters matched to it.

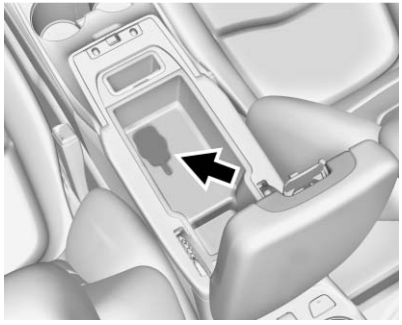
Programming with a Recognized Transmitter

A new transmitter can be programmed to the vehicle when there are two recognized transmitters. To program, the vehicle must be off and all of the transmitters, both currently recognized and new, must be in the vehicle.

1. Place the two recognized transmitter(s) in the cupholder.
2. Remove the key lock cylinder cap on the driver door handle. See *Door Locks* ⇨ *39*. Insert the vehicle key of the new transmitter into the key lock cylinder on the outside of the driver door and turn the key counterclockwise to the unlock position five times within 10 seconds.

 The Driver Information Center (DIC) displays READY FOR REMOTE #2, 3, 4 OR 5 etc.

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3. Remove the rubber mat in the center console storage area.
4. Place the new RKE transmitter into the transmitter pocket.
5. Press and hold POWER ⏻ on the center stack for two seconds. When the transmitter is programmed, the DIC will show that it is ready to program the next transmitter.
6. Remove the transmitter from the transmitter pocket and press 🔓 or 🔒 on the transmitter.

 To program additional transmitters, repeat Steps 4–6. When all additional transmitters are programmed, press and hold POWER ⏻ for 12 seconds to exit programming mode.
7. Return the key back into the transmitter.

Programming without a Recognized Transmitter

Program a new key to the vehicle when a recognized key is not available. Follow this procedure to program up to eight transmitters. Canadian regulations require that owners see their dealer. This procedure will take approximately 30 minutes to complete. The vehicle must be off and all transmitters to be programmed must be with you.

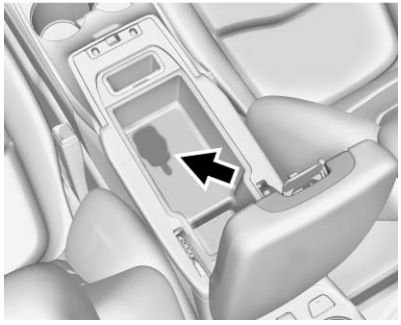
1. Remove the key lock cylinder cap on the driver door handle. See *Door Locks* ⇨ *39*. Insert the vehicle key of the transmitter into the key lock cylinder on the outside of the driver door and turn the key to the unlock position five times within 10 seconds.

 The Driver Information Center (DIC) displays REMOTE LEARN PENDING, PLEASE WAIT.
2. Wait for 10 minutes until the DIC displays PRESS START BUTTON TO LEARN and then press POWER ⏻ on the center stack.

 The DIC display will again show REMOTE LEARN PENDING, PLEASE WAIT.
3. Repeat Step 2 two more times. After the third time, all previously known transmitters will no longer work with the vehicle. Remaining transmitters can be programmed during the next steps.

 The DIC display should now show READY FOR REMOTE #1.

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4. Remove the rubber mat in the center console storage area.
5. Place the new transmitter into the transmitter pocket.
6. Press and hold POWER ⏻ for two seconds. When the transmitter is programmed, the DIC will show that it is ready to program the next transmitter.
7. Remove the transmitter from the transmitter pocket and press 🔓 on the transmitter.

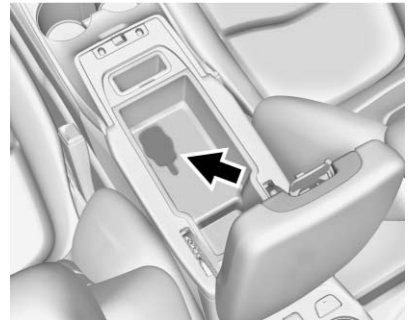
 To program additional transmitters, repeat Steps 5–7. When all additional transmitters are programmed, press and hold POWER ⏻ for 12 seconds to exit programming mode.
8. Return the key back into the transmitter.

Starting the Vehicle with a Low Transmitter Battery

If the transmitter battery is weak or there is an interference with the signal, the DIC may display NO REMOTE DETECTED or NO REMOTE KEY WAS DETECTED PLACE KEY IN TRANSMITTER POCKET THEN START YOUR VEHICLE when you try to start the vehicle. The REPLACE BATTERY IN REMOTE KEY message may also be displayed at this time.

To start the vehicle:

1. Open the center console storage area and remove the rubber mat.



2. Place the RKE transmitter into the transmitter pocket.
3. With the vehicle in P (Park) or N (Neutral), press the brake pedal and POWER ⏻ on the center stack. See *Power Button* ⇨ *175*.

Replace the transmitter battery as soon as possible.

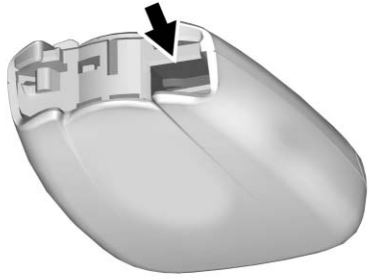
DEP DEALER E-PROCESS

Battery Replacement

Caution
When replacing the battery, do not touch any of the circuitry on the transmitter. Static from your body could damage the transmitter.



1. Press the button on the side of the transmitter near the bottom and pull the key out.



2. Separate the two halves of the transmitter using a flat tool inserted into the area near the key slot. Do not use the key slot.



4. Remove the old battery. Do not use a metal object.
5. Insert the new battery on the back housing, positive side facing down. Replace with a CR2032 or equivalent battery.
6. Align the front and back housing and the release button on the side of the transmitter, then snap the transmitter together.

Remote Start

This feature starts the heating or air conditioning systems and rear window defogger from outside the vehicle. Use remote start to heat or

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cool the interior when the vehicle is plugged in to maximize the electric range by utilizing electricity from the electrical outlet. Normal operation of the system will return after the vehicle has been turned on.

: This button is on the RKE transmitter.

During remote start:

- The climate control system will typically default to the last climate setting. If the fan is off or if eco and MAX are not selected, the air conditioning or heat will turn on as needed. See *Automatic Climate Control System* ⇨ *157*.
- If equipped with heated seats, and the vehicle personalization setting is enabled, the remote start auto heated seats may also come on. See *Heated Front Seats* ⇨ *54*, and *Vehicle Personalization* ⇨ *141*.
- If equipped the heated steering wheel may also come on. See *Heated Steering Wheel* ⇨ *96*.
- The rear window defogger will turn on during colder outside temperatures.
- Selecting during colder outside temperatures before shutting the vehicle off will help windshield clearing.
- Shutting the vehicle off in eco mode without selected will minimize the impact to electric range. Shutting the vehicle off in other modes will maximize heating or air conditioning.
- The engine may start to provide energy for heating and cooling, independent of the vehicle being plugged in or completely charged. Engine Assisted Heating operation, if available, can be personalized. See “Engine Assist Heat Plugged In” under *Vehicle Personalization* ⇨ *141*.
- Vehicle range may decrease if the vehicle is not plugged into an electrical outlet. If the vehicle is plugged in, much of the energy needed to support this feature will be provided from the electrical outlet, not from the high voltage battery.

Laws in some communities may restrict the use of features that remotely start the engine. For example, some laws may require a person using the remote start feature to have the vehicle in view when doing so. Check local regulations for any requirements on remote starting of vehicles.

The RKE transmitter range may be less while the vehicle is running.

Other conditions can affect the performance of the transmitter. See *Remote Keyless Entry (RKE) System* ⇨ *30*.

Starting the Vehicle

To heat or cool the passenger compartment using remote start:

1. Press and release on the RKE transmitter; the doors will lock.
2. Immediately press and hold until the turn signal lamps flash, or for at least

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four seconds. Pressing ↻ again during a remote start will turn the feature off.

Remote start will automatically shut off after 10 minutes unless a time extension is done.

While the remote start is active, the parking lamps will turn on and remain on.

After entering the vehicle during a remote start, press POWER ⏻ on the center stack with the brake pedal applied to operate as normal.

The remote start can be initiated two separate times between driving. For each remote start, the passenger compartment will be heated or cooled for 10 minutes.

Extending Vehicle Run Time

The vehicle run time can also be extended by another 10 minutes, if during the first 10 minutes Steps 1 and 2 are repeated while the vehicle is still running. An extension can be requested 30 seconds after starting. This provides a total of 20 minutes.

The remote start can only be extended once.

When the remote start is extended, the second 10-minute period is added on to the first 10 minutes for a total of 20 minutes.

A maximum of two remote starts, or a remote start with an extension, are allowed between vehicle operation.

The vehicle's ignition must be changed to ON/RUN and then back to OFF before the remote start procedure can be used again.

Canceling Remote Start

To cancel a remote start, do any of the following:

- Aim the RKE transmitter at the vehicle and press and hold ↻ until the parking lamps turn off.
- Turn on the hazard warning flashers.
- Press POWER ⏻ on the center stack, with the brake pedal applied, then press POWER ⏻ again to turn the vehicle off.

Conditions in Which Remote Start May Not Work

Conditions in which a remote start may not occur include:

- An open hood.
- The RKE transmitter is in the vehicle.
- The vehicle is not in P (Park).
- Vehicle propulsion system fault conditions, including an emission control system malfunction.
- High voltage battery fault conditions.

A second remote start or extension will not occur if the fuel level is low.

During a remote start, conditions in which a remote start may be canceled include:

- Vehicle propulsion system or high voltage battery fault conditions.
- Low engine oil pressure.
- Engine coolant temperature that is too high.

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Door Locks

⚠ Warning

Unlocked doors can be dangerous.

- Passengers, especially children, can easily open the doors and fall out of a moving vehicle. The chance of being thrown out of the vehicle in a crash is increased if the doors are not locked. So, all passengers should wear safety belts properly and the doors should be locked whenever the vehicle is driven.
- Young children who get into unlocked vehicles may be unable to get out. A child can be overcome by extreme heat and can suffer permanent injuries or even death from heat stroke. Always lock the vehicle whenever leaving it.

(Continued)

Warning (Continued)

- Outsiders can easily enter through an unlocked door when slowing or stopping the vehicle. Lock the doors to help prevent this from happening.

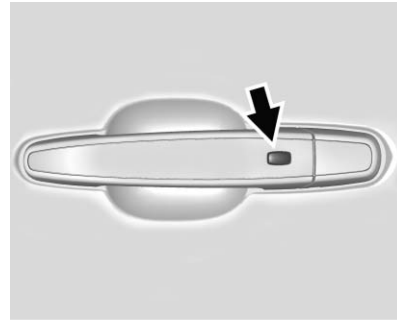
To lock or unlock the doors from outside the vehicle:

- Press 🔒 or 🔓 on the Remote Keyless Entry (RKE) transmitter.
- Use the key in the driver door.

To lock or unlock the doors from inside the vehicle:

- Press 🔒 or 🔓 on the power door lock switch.
- Push down the manual lock knob on the driver door to lock all doors. Push down the manual lock knob on a passenger door to lock only that door.
- Pull an interior door handle to unlock the door. Pull the door handle again to unlatch it.

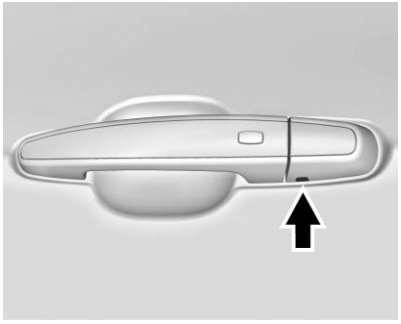
Keyless Access



The RKE transmitter must be within 1 m (3 ft) of the door being opened. Press the button on the door handle to open. See “Keyless Access Operation” in *Remote Keyless Entry (RKE) System Operation* ⇨ *30*.

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Key Cylinder Access

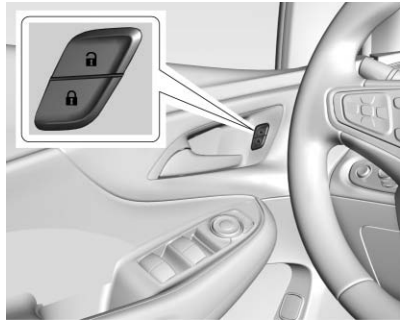


To access the key cylinder:

1. Pull the door handle to the open position.
2. Insert the key into the slot on the bottom of the cap and pry outward.
3. Move the cap rearward and remove.

Replace the cap by snapping on the tabs.

Power Door Locks



: Press to unlock the doors.

: Press to lock the doors.

Delayed Locking

This feature delays the locking of the doors until five seconds after all doors are closed.

When is pressed on the power door lock switch while the door is open, a chime will sound three times indicating delayed locking is active.

The doors will lock automatically five seconds after all doors are closed. If a door is reopened before that time, the five-second timer will reset when all doors are closed again.

Press on the door lock switch again or press on the RKE transmitter to lock the doors immediately.

This feature can also be programmed. See *Vehicle Personalization* ⇨ *141*.

Automatic Door Locks

The doors will lock automatically when all doors are closed, the ignition is on, and the shift lever is moved out of P (Park).

To unlock the doors:

- Press on a door.
- Move the shift lever into P (Park).

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Automatic door unlocking can be programmed through the Driver Information Center (DIC). See *Vehicle Personalization* ⇨ *141*.

Lockout Protection

If the vehicle is in ACC/ ACCESSORY or ON/RUN and the power door lock switch is pressed with the driver door open, all the doors will lock and only the driver door will unlock.

If the vehicle is off and locking is requested while a door is open, when all doors are closed the vehicle will check for RKE transmitters inside. If an RKE transmitter is detected and the number of RKE transmitters inside has not reduced, the driver door will unlock and the horn will chirp three times.

Lockout Protection can be manually overridden with the driver door open by pressing and holding on the power door lock switch.

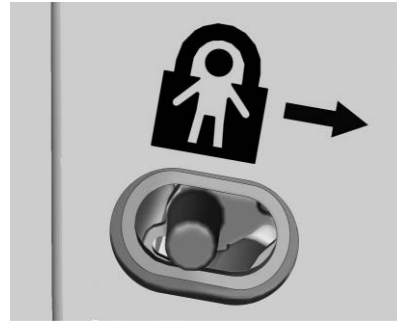
Unlocked Door Anti-Lockout

If Unlocked Door Anti-Lockout is turned on and the vehicle is off, the driver door is open, and locking is requested, all the doors will lock and only the driver door will unlock. The Unlocked Door Anti-Lockout feature can be turned on or off using the vehicle personalization menus. See *Vehicle Personalization* ⇨ *141*.

Safety Locks

The rear door safety locks prevent passengers from opening the rear doors from inside the vehicle.

Manual Safety Locks



The safety lock is on the inside edge of the rear doors. To use the safety lock:

1. Move the lever down to the lock position.
2. Close the door.
3. Do the same for the other rear door.

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To open a rear door when the safety lock is on:

1. Unlock the door by activating the inside handle, pressing the power door lock switch, or using the Remote Keyless Entry (RKE) transmitter.
2. Open the door from the outside.

When the safety lock is enabled, adults and older children will not be able to open the rear door from the inside. Cancel the safety locks to enable the doors to open from the inside.

To cancel the safety lock:

1. Unlock the door and open it from the outside.
2. Move the lever up to unlock. Do the same for the other door.

Doors

Hatch

⚠ Warning

Exhaust gases can enter the vehicle if it is driven in Extended Range Mode with the hatch open, or with any objects that pass through the seal between the body and the hatch. Engine exhaust contains carbon monoxide (CO) which cannot be seen or smelled. It can cause unconsciousness and even death.

If the vehicle must be driven in Extended Range Mode with the hatch open:

- Do not operate in Mountain Mode if driving with the hatch open.
- Close all of the windows.
- Fully open the air outlets on the instrument panel.

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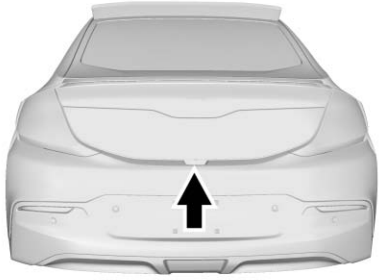
Warning (Continued)

- Adjust the climate control system to a setting that brings in only outside air and set the fan speed to the highest setting. See *Automatic Climate Control System* ⇨ *157*.

For more information about carbon monoxide, see *Engine Exhaust* ⇨ *185*.

To open the hatch, the vehicle must be off or the shift lever must be in P (Park).

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Press on the RKE transmitter to unlock all doors. Press the touch pad on the underside of the hatch and lift.



Use the inside pull handle to lower and close the hatch.

Keyless Access : To open the hatch with the vehicle locked, the RKE transmitter must be within 1 m (3 ft). Press the touch pad on the underside of the hatch and lift up. See *Remote Keyless Entry (RKE) System Operation* ⇨ *30*.

Always close the hatch before driving. Do not press the touch pad while closing the hatch; it will unlatch again.

Vehicle Security

This vehicle has theft-deterrent features; however, they do not make the vehicle impossible to steal.

Vehicle Alarm System

This vehicle has an anti-theft alarm system.

Arming the Alarm System

1. Turn off the vehicle.
2. Lock the vehicle in one of three ways:
 - Use the RKE transmitter.
 - Use the Keyless Access system.
 - With a door open, press on the center stack.
3. After 30 seconds the alarm system will arm. Pressing on the RKE transmitter a second time will bypass the 30-second delay and immediately arm the alarm system.

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The vehicle alarm system will not arm if the doors are locked with the key.

If the driver door is opened without first unlocking with the RKE transmitter, the horn will chirp and the lights will flash to indicate pre-alarm. If the vehicle is not started, or the door is not unlocked by pressing on the RKE transmitter during the 10-second pre-alarm, the alarm will be activated.

The alarm will also be activated if there is an attempt to remove the charge cord, or if a passenger door, the hatch, or the hood is opened, without first disarming the system. When the alarm is activated, the turn signals flash and the horn sounds for about 30 seconds. The alarm system will then re-arm to monitor for the next unauthorized event.

The charge cord theft alert feature may be disabled through the vehicle personalization. See “Charge Cord Theft Alert” under *Vehicle Personalization* ⇨ *141*.

Disarming the Alarm System

To disarm the alarm system, or turn off the alarm if it has been activated, do one of the following:

- Press on the RKE transmitter.
- Unlock the vehicle using the Keyless Access system.
- Start the vehicle.

To avoid setting off the alarm by accident:

- Lock the vehicle after all occupants have exited.
- Always unlock a door with the RKE transmitter or use the Keyless Access system.

Unlocking the driver door with the key will not disarm the system or turn off the alarm.

How to Detect a Tamper Condition

If is pressed on the transmitter and the horn chirps and the lights flash three times, a previous alarm occurred while the system was armed.

If the alarm has been activated, a message will appear on the DIC. See *Security Messages* ⇨ *139*.

Immobilizer

See *Radio Frequency Statement* ⇨ *351*.

Immobilizer Operation

This vehicle has a passive theft-deterrent system. The system does not have to be manually armed or disarmed.

The vehicle is automatically immobilized when the vehicle is turned off.

The system is automatically disarmed when the vehicle is started with a valid RKE transmitter in the vehicle. The RKE transmitter uses electronic coding that matches an immobilizer control unit in the vehicle and automatically disarms the system. Only a correct transmitter can be used to turn the vehicle on.

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The security light comes on if there is a problem with arming or disarming the theft-deterrent system.

This light may come on briefly when the vehicle is turned on. There is a problem if the engine does not start and this light stays on.

Turn the ignition off and try again.

If the engine still does not start, and the RKE transmitter appears undamaged, try the other RKE transmitter for the vehicle, or place the RKE transmitter in the transmitter pocket. See *Remote Keyless Entry (RKE) System Operation* ⇨ *30*. It may be necessary to check the fuse. See *Electrical System Overload* ⇨ *262*. If the vehicle does start, the first transmitter is bad. If the vehicle still does not start the vehicle needs service. See your dealer.

Do not leave the key or device that disarms or deactivates the vehicle theft-deterrent system in the vehicle.

Exterior Mirrors

Convex Mirrors

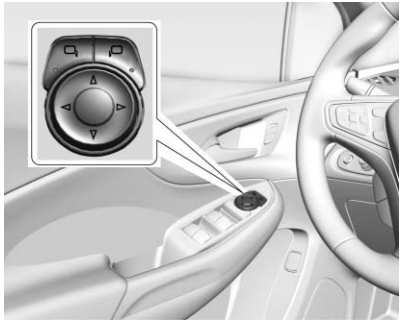
⚠ Warning

A convex mirror can make things, like other vehicles, look farther away than they really are. If you cut too sharply into the right lane, you could hit a vehicle on the right. Check the inside mirror or glance over your shoulder before changing lanes.

The passenger side mirror is convex shaped. A convex mirror's surface is curved so more can be seen from the driver seat.

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Power Mirrors



To adjust a mirror:

1. Press L or R to choose the driver or passenger mirror.
2. Press the arrows on the control pad to move each mirror in the desired direction.

Folding Mirrors

Manual Folding Mirrors

The mirrors can be folded inward toward the vehicle to prevent damage when going through an automatic car wash. Push the mirror outward to return it to the original position.

Heated Mirrors

The rear window defogger also heats the outside mirrors, if equipped.

REAR : Press to heat the outside rearview mirrors. See “Rear Window Defogger” under *Automatic Climate Control System* ⇨ *157*.

Interior Mirrors

Interior Rearview Mirrors

Adjust the rearview mirror for a clear view of the area behind the vehicle.

Do not spray glass cleaner directly on the mirror. Use a soft towel dampened with water.

Manual Rearview Mirror

If equipped with a manual rearview mirror, push the tab forward for daytime use and pull it for nighttime use to avoid glare from the headlamps from behind.

Automatic Dimming Rearview Mirror

If equipped, automatic dimming reduces the glare of headlamps from behind. The dimming feature comes on when the vehicle is started.

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Windows

⚠ Warning

Never leave a child, a helpless adult, or a pet alone in a vehicle, especially with the windows closed in warm or hot weather. They can be overcome by the extreme heat and suffer permanent injuries or even death from heat stroke.



The vehicle aerodynamics are designed to improve fuel economy performance. This may result in a pulsing sound when either rear window is down and the front windows are up. To reduce the sound, open either a front window or the sunroof, if equipped.

Power Windows

⚠ Warning

Children could be seriously injured or killed if caught in the path of a closing window. Never leave the Remote Keyless Entry (RKE) transmitter in a vehicle with children. When there are children in the rear seat, use the window lockout switch to prevent operation of the windows. See *Keys* ⇨ *29*.



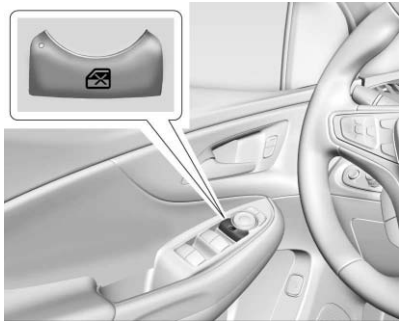
The windows work when the vehicle is in ON/RUN, ACC/ACCESSORY, or Retained Accessory Power (RAP). See *Retained Accessory Power (RAP)* ⇨ *177*.

Press or pull the switch to open or close the window.

The windows will be temporarily disabled if the window switches are used repeatedly within a short time.

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Window Lockout



This feature stops the rear door passenger window switches from working.

Press to engage the rear window lockout feature. The indicator light is on when engaged.

Press again to disengage.

Window Express Movement

Express-down/up allows the windows to be opened or closed without holding the window switch. Press the window switch fully down or pull it up, and quickly release it to engage. Briefly press or pull the same switch to stop window movement.

Express Window Obstacle Detection

The express-up feature will reverse window movement if it comes in contact with an object. Extreme cold or ice could cause the window to auto-reverse. The window will operate as normal after the object or condition is removed.

Obstacle Detection Override

⚠ Warning

If obstacle detection override is activated, the window will not reverse automatically. You or others could be injured and the window could be damaged. Before you use obstacle detection override, make sure that all people and obstructions are clear of the window path.

The window can be closed by holding the window switch in the up position if conditions prevent it from express closing.

Programming the Power Windows

Programming may be necessary if the vehicle's battery has been disconnected or discharged. If the window will not express-up follow these steps to program the window:

1. Close all doors.
2. Place the ignition in ACC/ ACCESSORY or ON/RUN.
3. Partially open the window to be programmed, then close it and continue to pull the switch briefly after the window has fully closed.
4. Press the power window switch until the window is fully open and briefly hold.

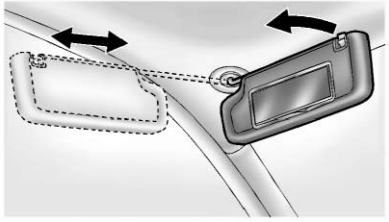
Remote Window Operation

If equipped, this feature allows the windows to be opened remotely. If enabled in vehicle personalization,

DEP DEALER E-PROCESS

press and hold on the RKE transmitter. See *Vehicle Personalization* ⇨ *141*.

Sun Visors



Pull the sun visor down to block glare. Detach the sun visor from the center mount to pivot to the side window or, if equipped, extend along the rod.

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Head Restraints

⚠ Warning

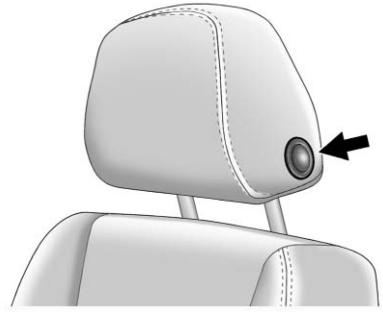
With head restraints that are not installed and adjusted properly, there is a greater chance that occupants will suffer a neck/spinal injury in a crash. Do not drive until the head restraints for all occupants are installed and adjusted properly.

Front Seats

The vehicle's front seats have adjustable head restraints in the outboard seating positions.



Adjust the head restraint so that the top of the restraint is at the same height as the top of the occupant's head. This position reduces the chance of a neck injury in a crash.



To raise or lower the head restraint, press the button on the side of the head restraint and pull up or push the head restraint down and release the button.

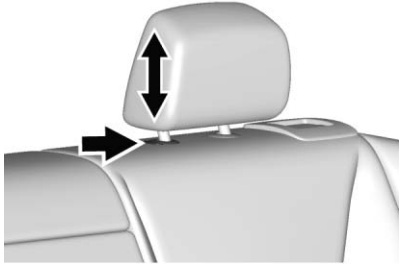
Pull and push on the head restraint after the button is released to make sure that it is locked in place.

The front seat outboard head restraints are not removable.

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Rear Seats

The vehicle's rear seats have adjustable head restraints in the outboard seating positions.



The height of the head restraint can be adjusted. Pull the head restraint up to raise it. Try to move the head restraint to make sure that it is locked in place.

To lower the head restraint, press the button on the top of the seatback, and push the head restraint down. Try to move the head restraint after the button is released to make sure that it is locked in place.

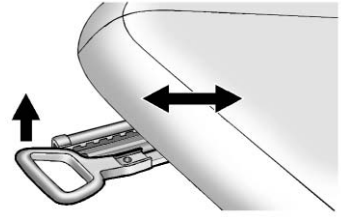
If you are installing a child restraint in the rear seat, see “Securing a Child Restraint Designed for the LATCH System” under *Lower Anchors and Tethers for Children (LATCH System)* ⇨ *82*.

Front Seats

Seat Adjustment

⚠ Warning

You can lose control of the vehicle if you try to adjust a driver seat while the vehicle is moving. Adjust the driver seat only when the vehicle is not moving.



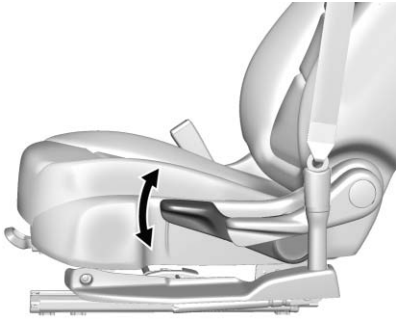
To adjust the seat position:

1. Pull the handle at the front of the seat cushion to unlock it.
2. Move the seat forward or rearward and release the handle.

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3. Try to move the seat back and forth to be sure it is locked in place.

Seat Height Adjuster



Move the lever up or down to raise or lower the seat.

Reclining Seatbacks

⚠ Warning

If either seatback is not locked, it could move forward in a sudden stop or crash. That could cause

(Continued)

Warning (Continued)

injury to the person sitting there. Always push and pull on the seatbacks to be sure they are locked.

⚠ Warning

Sitting in a reclined position when the vehicle is in motion can be dangerous. Even when buckled up, the safety belts cannot do their job.

The shoulder belt will not be against your body. Instead, it will be in front of you. In a crash, you could go into it, receiving neck or other injuries.

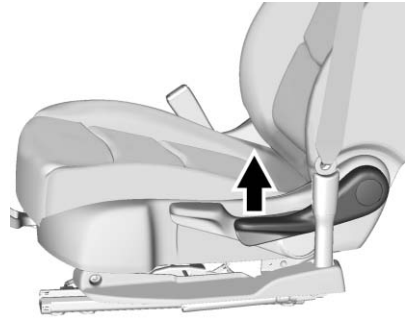
The lap belt could go up over your abdomen. The belt forces would be there, not at your pelvic bones. This could cause serious internal injuries.

(Continued)

Warning (Continued)

For proper protection when the vehicle is in motion, have the seatback upright. Then sit well back in the seat and wear the safety belt properly.

To recline the seatback:



1. Lift the lever.
2. Move the seatback to the desired position, and then release the lever to lock the seatback in place.

DEP DEALER E-PROCESS

3. Push and pull on the seatback to make sure it is locked.

To return the seatback to the upright position:

1. Lift the lever fully without applying pressure to the seatback, and the seatback returns to the upright position.
2. Push and pull on the seatback to make sure it is locked.

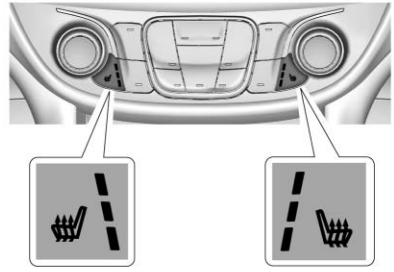


Do not have a seatback reclined if the vehicle is moving.

Heated Front Seats

⚠ Warning

If you cannot feel temperature change or pain to the skin, the seat heater may cause burns. To reduce the risk of burns, people with such a condition should use care when using the seat heater, especially for long periods of time. Do not place anything on the seat that insulates against heat, such as a blanket, cushion, cover, or similar item. This may cause the seat heater to overheat. An overheated seat heater may cause a burn or may damage the seat.



If available, the controls are on the center stack. To operate, the vehicle must be on.

Press or to heat the driver or passenger seat.

Press the button once for the highest setting. With each press of the button, the heated seat will change to the next lower setting, and then the off setting. Three lights indicate the highest setting and one light the lowest.

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Auto Heated Seats

If equipped, the controls can be accessed while the vehicle is on by pressing or on the center stack.

When the vehicle is on, this feature will automatically activate the heated seats at the level required by the vehicle's interior temperature. The active high, medium, low, or off heated seat level will be indicated by the manual heated seat button lights on the center stack. Use the manual heated seat buttons on the center stack to turn auto heated seats off.

If the passenger seat is unoccupied, the auto heated seats feature will not activate that seat.

The auto heated seats feature can be programmed to always be enabled when the vehicle is on. See *Vehicle Personalization* ⇨ *141*.

Remote Start Auto Heated Seats

When it is cold outside, the heated seats turn on automatically during a remote vehicle start. If the vehicle has auto heated seats, the seat heating level will automatically change to the level required by the vehicle's interior temperature when the vehicle is turned on.

The indicator lights on the heated seat buttons do not turn on during a remote start.

The temperature performance of an unoccupied seat may be reduced. This is normal.

The heated seats will not turn on during a remote start unless the heated seats feature is enabled in the vehicle personalization menu. See *Vehicle Personalization* ⇨ *141*.

Rear Seats

Folding the Seatback

⚠ Warning

If either seatback is not locked, it could move forward in a sudden stop or crash. That could cause injury to the person sitting there. Always push and pull on the seatbacks to be sure they are locked.

⚠ Warning

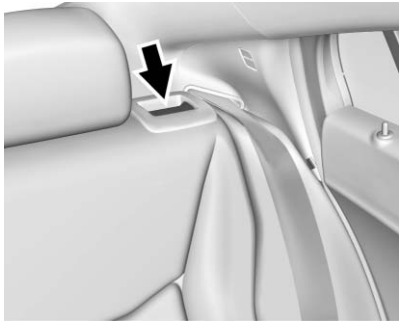
A safety belt that is improperly routed, not properly attached, or twisted will not provide the protection needed in a crash. The person wearing the belt could be seriously injured. After raising the rear seatback, always check to be sure that the safety belts are properly routed and attached, and are not twisted.

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To fold the seatback down:

Caution

Folding a rear seat with the safety belts still fastened may cause damage to the seat or the safety belts. Always unbuckle the safety belts and return them to their normal stowed position before folding a rear seat.



1. Pull the seatback release lever to unlock the seatback.

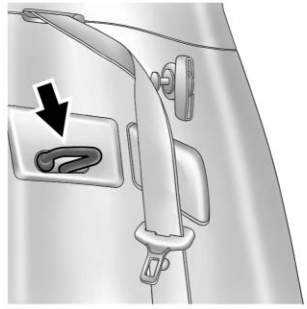
 A tab near the lever raises when the seatback is unlocked.
2. Fold the seatback forward.

Raising the Seatback

Caution

Damage to the safety belt or seatback locking mechanism can occur if the safety belt is caught between the rear seatback and the seatback locking mechanism. The safety belt must be out of the way when the rear seat is raised to the upright, locked position. If the safety belt is damaged, see your dealer and have it replaced.

To raise the seatback:



1. The safety belt should not cross the seatback locking mechanism when raising the seatback.
2. Raise the seatback and push it rearward to lock it into place.

 A tab near the seatback release lever retracts when the seatback is locked.
3. Push and pull the top of the seatback to be sure it is locked into position.

Keep the seat in the upright, locked position when not in use.

DEP DEALER E-PROCESS

Heated Rear Seats

⚠ Warning

If you cannot feel temperature change or pain to the skin, the seat heater may cause burns. To reduce the risk of burns, people with such a condition should use care when using the seat heater, especially for long periods of time. Do not place anything on the seat that insulates against heat, such as a blanket, cushion, cover, or similar item. This may cause the seat heater to overheat. An overheated seat heater may cause a burn or may damage the seat.



If equipped, the rear heated seat buttons are on the rear of the center console.

Press or to heat the left outboard or right outboard seat cushion.

Safety Belts

This section of the manual describes how to use safety belts properly, and some things not to do.

⚠ Warning

Do not let anyone ride where a safety belt cannot be worn properly. In a crash, if you or your passenger(s) are not wearing safety belts, injuries can be much worse than if you are wearing safety belts. You can be seriously injured or killed by hitting things inside the vehicle harder or by being ejected from the vehicle. In addition, anyone who is not buckled up can strike other passengers in the vehicle.

It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a collision, passengers riding in these areas are more likely to be seriously injured or killed. Do not allow

(Continued)

DEP DEALER E-PROCESS

Warning (Continued)

passengers to ride in any area of the vehicle that is not equipped with seats and safety belts.

Always wear a safety belt, and check that all passenger(s) are restrained properly too.

This vehicle has indicators as a reminder to buckle the safety belts. See *Safety Belt Reminders* ⇨ *107*.

Why Safety Belts Work



When riding in a vehicle, you travel as fast as the vehicle does. If the vehicle stops suddenly, you keep going until something stops you. It could be the windshield, the instrument panel, or the safety belts!

When you wear a safety belt, you and the vehicle slow down together. There is more time to stop because you stop over a longer distance and, when worn properly, your strongest bones take the forces from the safety belts. That is why wearing safety belts makes such good sense.

Questions and Answers About Safety Belts

Q: Will I be trapped in the vehicle after a crash if I am wearing a safety belt?

A: You *could* be — whether you are wearing a safety belt or not. Your chance of being conscious during and after a crash, so you *can* unbuckle and get out, is *much* greater if you are belted.

Q: If my vehicle has airbags, why should I have to wear safety belts?

A: Airbags are supplemental systems only. They work *with* safety belts — not instead of them. Whether or not an airbag is provided, all occupants still have to buckle up to get the most protection.

Also, in nearly all states and in all Canadian provinces, the law requires wearing safety belts.

How to Wear Safety Belts Properly

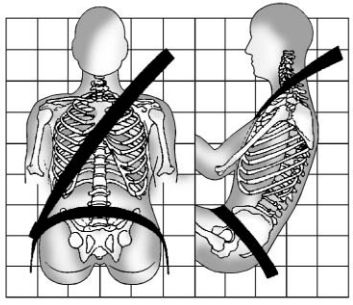
This section is only for people of adult size.

There are special things to know about safety belts and children. And there are different rules for smaller children and infants. If a child will be riding in the vehicle, see *Older Children* ⇨ *75* or *Infants and Young Children* ⇨ *77*. Follow those rules for everyone's protection.

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It is very important for all occupants to buckle up. Statistics show that unbelted people are hurt more often in crashes than those who are wearing safety belts.

There are important things to know about wearing a safety belt properly.



- Sit up straight and always keep your feet on the floor in front of you.
- Always use the correct buckle for your seating position.
- Wear the lap part of the belt low and snug on the hips, just touching the thighs. In a crash, this applies force to the strong pelvic bones and you would be less likely to slide under the lap belt. If you slid under it, the belt would apply force on your abdomen. This could cause serious or even fatal injuries.
- Wear the shoulder belt over the shoulder and across the chest. These parts of the body are best able to take belt restraining forces. The shoulder belt locks if there is a sudden stop or crash.

⚠ Warning

You can be seriously injured, or even killed, by not wearing your safety belt properly.

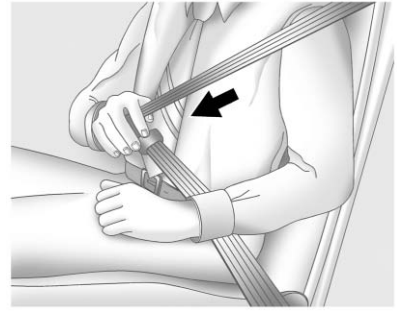
- Never allow the lap or shoulder belt to become loose or twisted.
- Never wear the shoulder belt under both arms or behind your back.
- Never route the lap or shoulder belt over an armrest.

Lap-Shoulder Belt

All seating positions in the vehicle have a lap-shoulder belt.

The following instructions explain how to wear a lap-shoulder belt properly.

1. Adjust the seat, if the seat is adjustable, so you can sit up straight. To see how, see “Seats” in the Index.



2. Pick up the latch plate and pull the belt across you. Do not let it get twisted.

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The lap-shoulder belt may lock if you pull the belt across you very quickly. If this happens, let the belt go back slightly to unlock it. Then pull the belt across you more slowly.

If the shoulder portion of a passenger belt is pulled out all the way, the child restraint locking feature may be engaged. If this happens, let the belt go back all the way and start again.



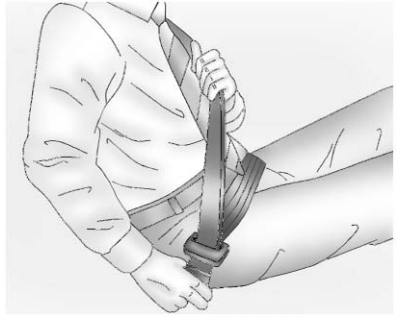
If the webbing locks in the latch plate before it reaches the buckle, tilt the latch plate to flat to unlock.



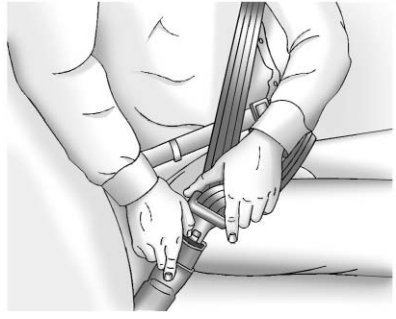
3. Push the latch plate into the buckle until it clicks.

 Pull up on the latch plate to make sure it is secure. If the belt is not long enough, see *Safety Belt Extender* ⇨ *62*.

 Position the release button on the buckle so that the safety belt could be quickly unbuckled if necessary.



4. To make the lap part tight, pull up on the shoulder belt.



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To unlatch the belt, push the button on the buckle. The belt should return to its stowed position.

Always stow the safety belt slowly. If the safety belt webbing returns quickly to the stowed position, the retractor may lock and cannot be pulled out. If this happens, pull the safety belt straight out firmly to unlock the webbing, and then release it. If the webbing is still locked in the retractor, see your dealer.

Before a door is closed, be sure the safety belt is out of the way. If a door is slammed against a safety belt, damage can occur to both the safety belt and the vehicle.

Safety Belt Pretensioners

This vehicle has safety belt pretensioners for front outboard occupants. Although the safety belt pretensioners cannot be seen, they are part of the safety belt assembly. They can help tighten the safety belts during the early stages of a moderate to severe frontal, near frontal, or rear crash if the threshold conditions for pretensioner activation are met. Safety belt pretensioners can also help tighten the safety belts in a side crash or a rollover event.

Pretensioners work only once. If the pretensioners activate in a crash, they need to be replaced, and other new parts for the vehicle's safety belt system may be required. See *Replacing Safety Belt System Parts after a Crash* ⇨ *62*.

Safety Belt Use During Pregnancy

Safety belts work for everyone, including pregnant women. Like all occupants, they are more likely to be seriously injured if they do not wear safety belts.



A pregnant woman should wear a lap-shoulder belt, and the lap portion should be worn as low as possible, below the rounding, throughout the pregnancy.

The best way to protect the fetus is to protect the mother. When a safety belt is worn properly, it is more likely that the fetus will not be hurt in a crash. For pregnant women, as for anyone, the key to making safety belts effective is wearing them properly.

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Safety Belt Extender

If the vehicle's safety belt will fasten around you, you should use it.

But if a safety belt is not long enough, your dealer will order you an extender. When you go in to order it, take the heaviest coat you will wear, so the extender will be long enough for you. To help avoid personal injury, do not let someone else use it, and use it only for the seat it is made to fit. The extender has been designed for adults. Never use it for securing child seats. To wear it, attach it to the regular safety belt. For more information, see the instruction sheet that comes with the extender.

Safety System Check

Now and then, check that the safety belt reminder light, safety belts, buckles, latch plates, retractors, and anchorages are all working properly. Look for any other loose or damaged safety belt system parts that might keep a safety belt system from doing its job. See your dealer to have it repaired. Torn or frayed safety belts may not protect you in a crash. They can rip apart under impact forces. If a belt is torn or frayed, get a new one right away.

Make sure the safety belt reminder light is working. See *Safety Belt Reminders* ⇨ *107*.

Keep safety belts clean and dry. See *Safety Belt Care* ⇨ *62*.

Safety Belt Care

Keep belts clean and dry.

⚠ Warning

Do not bleach or dye safety belt webbing. It may severely weaken the webbing. In a crash, they might not be able to provide adequate protection. Clean and rinse safety belt webbing only with mild soap and lukewarm water. Allow the webbing to dry.

Replacing Safety Belt System Parts after a Crash

⚠ Warning

A crash can damage the safety belt system in the vehicle. A damaged safety belt system may not properly protect the person using it, resulting in serious injury or even death in a crash. To help make sure the safety belt systems are working properly after a crash, have them inspected and any necessary replacements made as soon as possible.

After a minor crash, replacement of safety belts may not be necessary. But the safety belt assemblies that were used during any crash may have been stressed or damaged. See your dealer to have the safety belt assemblies inspected or replaced.

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New parts and repairs may be necessary even if the safety belt system was not being used at the time of the crash.

Have the safety belt pretensioners checked if the vehicle has been in a crash, or if the airbag readiness light stays on after you start the vehicle or while you are driving. See *Airbag Readiness Light* ⇨ *108*.

Airbag System

The vehicle has the following airbags:

- A frontal airbag for the driver.
- A frontal airbag for the front outboard passenger.
- A knee airbag for the driver.
- A knee airbag for the front outboard passenger.
- A seat-mounted side impact airbag for the driver.
- A seat-mounted side impact airbag for the front outboard passenger.
- Seat-mounted side impact airbags for the second row outboard passengers.
- A roof-rail airbag for the driver and the passenger seated directly behind the driver.
- A roof-rail airbag for the front outboard passenger and the passenger seated directly behind the front outboard passenger.

All vehicle airbags have the word AIRBAG on the trim or on a label near the deployment opening.

For frontal airbags, the word AIRBAG is on the center of the steering wheel for the driver and on the instrument panel for the front outboard passenger.

For knee airbags, the word AIRBAG is on the lower part of the instrument panel.

For seat-mounted side impact airbags, the word AIRBAG is on the side of the seatback closest to the door.

For roof-rail airbags, the word AIRBAG is on the ceiling or trim.

Airbags are designed to supplement the protection provided by safety belts. Even though today's airbags are also designed to help reduce the risk of injury from the force of an inflating bag, all airbags must inflate very quickly to do their job.

Here are the most important things to know about the airbag system:

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⚠ Warning

You can be severely injured or killed in a crash if you are not wearing your safety belt, even with airbags. Airbags are designed to work with safety belts, not replace them. Also, airbags are not designed to inflate in every crash. In some crashes safety belts are the only restraint. See *When Should an Airbag Inflate?* ⇨ *66*.

Wearing your safety belt during a crash helps reduce the chance of hitting things inside the vehicle or being ejected from it. Airbags are “supplemental restraints” to the safety belts. Everyone in the vehicle should wear a safety belt properly, whether or not there is an airbag for that person.

⚠ Warning

Because airbags inflate with great force and faster than the blink of an eye, anyone who is up against, or very close to any airbag when it inflates can be seriously injured or killed. Do not sit unnecessarily close to any airbag, as you would be if sitting on the edge of the seat or leaning forward. Safety belts help keep you in position before and during a crash. Always wear a safety belt, even with airbags. The driver should sit as far back as possible while still maintaining control of the vehicle. The safety belts and the front outboard passenger airbags are most effective when you are sitting well back and upright in the seat with both feet on the floor.

Occupants should not lean on or sleep against the door or side windows in seating positions with seat-mounted side impact airbags and/or roof-rail airbags.

⚠ Warning

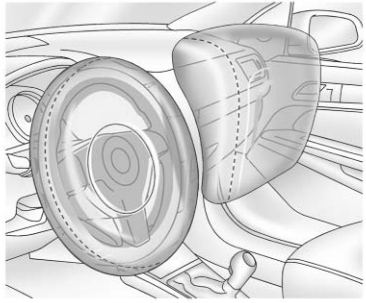
Children who are up against, or very close to, any airbag when it inflates can be seriously injured or killed. Always secure children properly in the vehicle. To read how, see *Older Children* ⇨ *75* or *Infants and Young Children* ⇨ *77*.



There is an airbag readiness light on the instrument cluster, which shows the airbag symbol. The system checks the airbag electrical system for malfunctions. The light tells you if there is an electrical problem. See *Airbag Readiness Light* ⇨ *108* for more information.

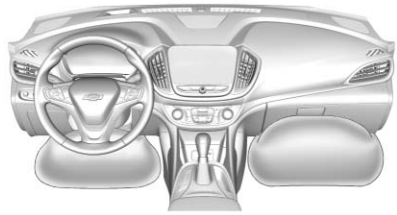
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Where Are the Airbags?

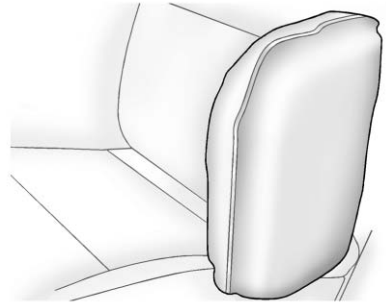


The driver frontal airbag is in the center of the steering wheel.

The front outboard passenger frontal airbag is in the passenger side instrument panel.



The driver knee airbag is below the steering column. The front outboard passenger knee airbag is below the glove box.



Driver Side Shown, Passenger Side Similar

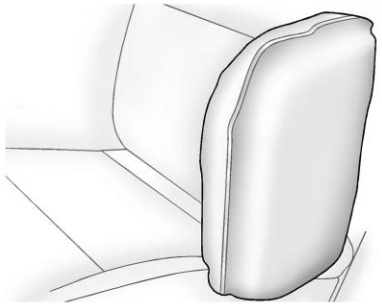
The driver and front outboard passenger seat-mounted side impact airbags are in the sides of the seatbacks closest to the door.

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Driver Side Shown, Passenger Side Similar

The roof-rail airbags for the driver, front outboard passenger, and second row outboard passengers are in the ceiling above the side windows.



Rear Seat Driver Side Shown, Passenger Side Similar

On vehicles with second row seat-mounted side impact airbags, they are in the sides of the rear seatback closest to the door.

⚠ Warning

If something is between an occupant and an airbag, the airbag might not inflate properly or it might force the object into that person causing severe injury or even death. The path of an inflating airbag must be kept

(Continued)

Warning (Continued)

clear. Do not put anything between an occupant and an airbag, and do not attach or put anything on the steering wheel hub or on or near any other airbag covering.

Do not use seat accessories that block the inflation path of a seat-mounted side impact airbag.

Never secure anything to the roof of a vehicle with roof-rail airbags by routing a rope or tie-down through any door or window opening. If you do, the path of an inflating roof-rail airbag will be blocked.

When Should an Airbag Inflate?

This vehicle is equipped with airbags. See *Airbag System* ⇨ *63*. Airbags are designed to inflate if the impact exceeds the specific airbag system's deployment threshold. Deployment thresholds are used to

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predict how severe a crash is likely to be in time for the airbags to inflate and help restrain the occupants. The vehicle has electronic sensors that help the airbag system determine the severity of the impact. Deployment thresholds can vary with specific vehicle design.

Frontal airbags are designed to inflate in moderate to severe frontal or near frontal crashes to help reduce the potential for severe injuries, mainly to the driver's or front outboard passenger's head and chest.

Whether the frontal airbags will or should inflate is not based primarily on how fast the vehicle is traveling. It depends on what you hit, the direction of the impact, and how quickly the vehicle slows down.

Frontal airbags may inflate at different crash speeds depending on whether the vehicle hits an object straight on or at an angle, and whether the object is fixed or moving, rigid or deformable, narrow or wide.

Frontal airbags are not intended to inflate during vehicle rollovers, in rear impacts, or in many side impacts.

In addition, the vehicle has advanced technology frontal airbags. Advanced technology frontal airbags adjust the restraint according to crash severity.

Knee airbags are designed to inflate in moderate to severe frontal or near frontal impacts. Knee airbags are not designed to inflate during vehicle rollovers, in rear impacts, or in many side impacts.

Seat-mounted side impact airbags are designed to inflate in moderate to severe side crashes depending on the location of the impact. Seat-mounted side impact airbags are not designed to inflate in frontal impacts, near frontal impacts, rollovers, or rear impacts.
A seat-mounted side impact airbag is designed to inflate on the side of the vehicle that is struck.

Roof-rail airbags are designed to inflate in moderate to severe side crashes depending on the location of the impact. In addition, these roof-rail airbags are designed to inflate during a rollover or in a severe frontal impact. Roof-rail airbags are not designed to inflate in rear impacts. Both roof-rail airbags will inflate when either side of the vehicle is struck or if the sensing system predicts that the vehicle is about to roll over on its side, or in a severe frontal impact.

In any particular crash, no one can say whether an airbag should have inflated simply because of the vehicle damage or repair costs.

What Makes an Airbag Inflate?

In a deployment event, the sensing system sends an electrical signal triggering a release of gas from the inflator. Gas from the inflator fills the airbag causing the bag to break out of the cover. The inflator, the airbag, and related hardware are all part of the airbag module.

For airbag locations, see *Where Are the Airbags?* ⇨ *65*.

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How Does an Airbag Restrain?

In moderate to severe frontal or near frontal collisions, even belted occupants can contact the steering wheel or the instrument panel. In moderate to severe side collisions, even belted occupants can contact the inside of the vehicle.

Airbags supplement the protection provided by safety belts by distributing the force of the impact more evenly over the occupant's body.

Rollover capable roof-rail airbags are designed to help contain the head and chest of occupants in the outboard seating positions in the first and second rows. The rollover capable roof-rail airbags are designed to help reduce the risk of full or partial ejection in rollover events, although no system can prevent all such ejections.

But airbags would not help in many types of collisions, primarily because the occupant's motion is not toward those airbags. See *When Should an Airbag Inflate?* ⇨ *66*.

Airbags should never be regarded as anything more than a supplement to safety belts.

What Will You See after an Airbag Inflates?

After frontal, knee, and seat-mounted side impact airbags inflate, they quickly deflate, so quickly that some people may not even realize an airbag inflated. Roof-rail airbags may still be at least partially inflated for some time after they inflate. Some components of the airbag module may be hot for several minutes. For location of the airbags, see *Where Are the Airbags?* ⇨ *65*.

The parts of the airbag that come into contact with you may be warm, but not too hot to touch. There may be some smoke and dust coming from the vents in the deflated airbags. Airbag inflation does not prevent the driver from seeing out of the windshield or being able to steer the vehicle, nor does it prevent people from leaving the vehicle.

⚠ Warning

When an airbag inflates, there may be dust in the air. This dust could cause breathing problems for people with a history of asthma or other breathing trouble. To avoid this, everyone in the vehicle should get out as soon as it is safe to do so. If you have breathing problems but cannot get out of the vehicle after an airbag inflates, then get fresh air by opening a window or a door. If you experience breathing problems following an airbag deployment, you should seek medical attention.

The vehicle has a feature that may automatically unlock the doors, turn on the interior lamps, turn on the hazard warning flashers, and shut off the fuel system after the airbags

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inflate. The feature may also activate, without airbag inflation, after an event that exceeds a predetermined threshold. You can lock the doors, turn off the interior lamps, and turn off the hazard warning flashers by using the controls for those features.

⚠ Warning

A crash severe enough to inflate the airbags may have also damaged important functions in the vehicle, such as the fuel system, brake and steering systems, etc. Even if the vehicle appears to be drivable after a moderate crash, there may be concealed damage that could make it difficult to safely operate the vehicle.

Use caution if you should attempt to restart the engine after a crash has occurred.

If an airbag inflates or the vehicle has been in a crash, the sensing system may shut down the high voltage system. When this occurs, the high voltage battery is disconnected and the vehicle will not start. The SERVICE VEHICLE SOON message in the Driver Information Center (DIC) will be displayed. Before the vehicle can be operated again, it must be serviced at your dealer.

In many crashes severe enough to inflate the airbag, windshields are broken by vehicle deformation. Additional windshield breakage may also occur from the front outboard passenger airbag.

- Airbags are designed to inflate only once. After an airbag inflates, you will need some new parts for the airbag system. If you do not get them, the airbag system will not be there to help protect you in another crash. A new system will include airbag modules and possibly other parts. The service manual for the vehicle covers the need to replace other parts.

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- The vehicle has a crash sensing and diagnostic module which records information after a crash. See *Vehicle Data Recording and Privacy* ⇨ *353* and *Event Data Recorders* ⇨ *353*.
- Let only qualified technicians work on the airbag systems. Improper service can mean that an airbag system will not work properly. See your dealer for service.

Passenger Sensing System

The vehicle has a passenger sensing system for the front outboard passenger position. The passenger airbag status indicator will light on the overhead console when the vehicle is started.



The words ON and OFF will be visible during the system check. When the system check is complete, either the word ON or OFF will be visible. See *Passenger Airbag Status Indicator* ⇨ *108*.

The passenger sensing system turns off the front outboard passenger frontal airbag and knee airbag, under certain conditions. No other airbag is affected by the passenger sensing system.

The passenger sensing system works with sensors that are part of the front outboard passenger seat. The sensors are designed to detect the presence of a properly seated occupant and determine if the front outboard passenger frontal airbag and knee airbag should be allowed to inflate or not.

According to accident statistics, children are safer when properly secured in a rear seat in a correct child restraint for their weight and size.

Whenever possible, children aged 12 and under should be secured in a rear seating position.

Never put a rear-facing child seat in the front. This is because the risk to the rear-facing child is so great, if the airbag inflates.

⚠ Warning

A child in a rear-facing child restraint can be seriously injured or killed if the passenger frontal airbag inflates. This is because the back of the rear-facing child restraint would be very close to the inflating airbag. A child in a forward-facing child restraint can be seriously injured or killed if the passenger frontal airbag inflates and the passenger seat is in a forward position.

Even if the passenger sensing system has turned off the front outboard passenger airbag(s), no system is fail-safe. No one can guarantee that an airbag will not deploy under some unusual circumstance, even though the airbag(s) are off.

(Continued)

Warning (Continued)

Never put a rear-facing child restraint in the front seat, even if the airbag is off. If securing a forward-facing child restraint in the front outboard passenger seat, always move the seat as far back as it will go. It is better to secure child restraints in the rear seat. Consider using another vehicle to transport the child when a rear seat is not available.

The passenger sensing system is designed to turn off the front outboard passenger airbag and knee airbag if:

- The front outboard passenger seat is unoccupied.
- The system determines that an infant is present in a child restraint.
- A front outboard passenger takes his/her weight off of the seat for a period of time.

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- There is a critical problem with the airbag system or the passenger sensing system.

When the passenger sensing system has turned off the front outboard passenger frontal airbag and knee airbag, the off indicator will light and stay lit to remind you that the airbags are off. See *Passenger Airbag Status Indicator* ⇨ *108*.

The passenger sensing system is designed to turn on the front outboard passenger frontal airbag and knee airbag anytime the system senses that a person of adult size is sitting properly in the front outboard passenger seat.

When the passenger sensing system has allowed the airbags to be enabled, the on indicator will light and stay lit as a reminder that the airbags are active.

For some children, including children in child restraints, and for very small adults, the passenger sensing system may or may not turn off the front outboard passenger frontal airbag and knee airbag, depending upon the person's seating posture and body build. Everyone in the vehicle who has outgrown child restraints should wear a safety belt properly — whether or not there is an airbag for that person.

⚠ Warning

If the airbag readiness light ever comes on and stays on, it means that something may be wrong with the airbag system. To help avoid injury to yourself or others, have the vehicle serviced right away. See *Airbag Readiness Light* ⇨ *108* for more information, including important safety information.

If the On Indicator Is Lit for a Child Restraint

The passenger sensing system is designed to turn off the front outboard passenger frontal airbag and knee airbag if the system determines that an infant is present in a child restraint. If a child restraint has been installed and the on indicator is lit:

1. Turn the vehicle off.
2. Remove the child restraint from the vehicle.
3. Remove any additional items from the seat such as blankets, cushions, seat covers, seat heaters, or seat massagers.
4. Reinstall the child restraint following the directions provided by the child restraint manufacturer and refer to *Securing Child Restraints (With the Safety Belt in the Front Seat)* ⇨ *90* or *Securing Child Restraints (With the Safety Belt in the Rear Seat)* ⇨ *88*.
5. If, after reinstalling the child restraint and restarting the vehicle, the on indicator is still lit, turn the vehicle off. Then slightly recline the vehicle seatback and adjust the seat cushion, if adjustable, to make

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sure that the vehicle seatback is not pushing the child restraint into the seat cushion.

Also make sure the child restraint is not trapped under the vehicle head restraint. If this happens, adjust the head restraint. See *Head Restraints* ⇨ *51*.

6. Restart the vehicle.

The passenger sensing system may or may not turn off the airbags for a child in a child restraint depending upon the child's size. It is better to secure the child restraint in a rear seat. Never put a rear-facing child restraint in the front seat, even if the on indicator is not lit.

If the Off Indicator Is Lit for an Adult-Sized Occupant



If a person of adult size is sitting in the front outboard passenger seat, but the off indicator is lit, it could be because that person is not sitting properly in the seat. Use the following steps to allow the system to detect that person and enable the front outboard passenger frontal airbag and knee airbag:

1. Turn the vehicle off.
2. Remove any additional material from the seat, such as blankets, cushions, seat covers, seat heaters, or seat massagers. Also, remove laptops, or other electronic devices.
3. Place the seatback in the fully upright position.
4. Have the person sit upright in the seat, centered on the seat cushion, with legs comfortably extended.
5. Restart the vehicle and have the person remain in this position for two to three minutes after the on indicator is lit.

⚠ Warning

If the front outboard passenger airbag is turned off for an adult-sized occupant, the airbag will not be able to inflate and help protect that person in a crash, resulting in an increased risk of serious injury or even death. An adult-sized occupant should not ride in the front outboard passenger seat, if the passenger airbag off indicator is lit.

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Additional Factors Affecting System Operation

Safety belts help keep the passenger in position on the seat during vehicle maneuvers and braking, which helps the passenger sensing system maintain the passenger airbag status. See “Safety Belts” and “Child Restraints” in the Index for additional information about the importance of proper restraint use.

A thick layer of additional material, such as a blanket or cushion, or aftermarket equipment such as seat covers, seat heaters, and seat massagers can affect how well the passenger sensing system operates. We recommend that you not use seat covers or other aftermarket equipment except when approved by GM for your specific vehicle. See *Adding Equipment to the Airbag-Equipped Vehicle* ⇨ *74* for more information about modifications that can affect how the system operates.

A wet seat can affect the performance of the passenger sensing system. Here is how:

- The passenger sensing system may turn off the passenger frontal airbag and passenger knee airbag when liquid is soaked into the seat. If this happens, the off indicator will be lit, and the airbag readiness light on the instrument panel will also be lit.
- Liquid pooled on the seat that has not soaked in may make it more likely that the passenger sensing system will turn on the passenger frontal airbag and passenger knee airbag while a child restraint or child occupant is on the seat. If the passenger frontal airbag and passenger knee airbag are turned on, the on indicator will be lit.

If the passenger seat gets wet, dry the seat immediately. If the airbag readiness light is lit, do not install a child restraint or allow anyone to occupy the seat. See *Airbag Readiness Light* ⇨ *108* for important safety information.

The on indicator may be lit if an object, such as a briefcase, handbag, grocery bag, laptop, or other electronic device, is put on an unoccupied seat. If this is not desired, remove the object from the seat.

⚠ Warning

Stowing of articles under the passenger seat or between the passenger seat cushion and seatback may interfere with the proper operation of the passenger sensing system.

Servicing the Airbag-Equipped Vehicle

Airbags affect how the vehicle should be serviced. There are parts of the airbag system in several places around the vehicle. Your dealer and the service manual have information about servicing the

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vehicle and the airbag system. To purchase a service manual, see *Service Publications Ordering Information* ⇨ *350*.

⚠ Warning

For up to 10 seconds after the vehicle is turned off and the 12-volt battery is disconnected, an airbag can still inflate during improper service. You can be injured if you are close to an airbag when it inflates. Avoid yellow connectors. They are probably part of the airbag system. Be sure to follow proper service procedures, and make sure the person performing work for you is qualified to do so.

Adding Equipment to the Airbag-Equipped Vehicle

Adding accessories that change the vehicle's frame, bumper system, height, front end, or side sheet metal may keep the airbag system from working properly.

The operation of the airbag system can also be affected by changing any parts of the front seats, safety belts, airbag sensing and diagnostic module, steering wheel, instrument panel, any of the airbag modules, ceiling or pillar garnish trim, overhead console, front sensors, side impact sensors, rollover sensor module, or airbag wiring.

Your dealer and the service manual have information about the location of the airbag sensors, sensing and diagnostic module, and airbag wiring.

In addition, the vehicle has a passenger sensing system that includes sensors as part of the front outboard passenger seat. The passenger sensing system may not operate properly if the original seat trim is replaced with non-GM covers, upholstery, or trim; or with GM covers, upholstery, or trim designed for a different vehicle. Any object, such as an aftermarket seat heater or a comfort-enhancing pad or device, installed under or on top of the seat fabric, could also interfere with the operation of the passenger sensing system. This could either prevent proper deployment of the passenger airbag(s) or prevent the passenger sensing system from properly turning off the passenger airbag(s). See *Passenger Sensing System* ⇨ *69*.

If the vehicle has rollover roof-rail airbags, see *Different Size Tires and Wheels* ⇨ *287* for additional important information.

If you have to modify your vehicle because you have a disability and you have questions about whether the modifications will affect the vehicle's airbag system, or if you have questions about whether the airbag system will be affected if the vehicle is modified for any other reason, call Customer Assistance. See *Customer Assistance Offices* ⇨ *343*.

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Airbag System Check

The airbag system does not need regularly scheduled maintenance or replacement. Make sure the airbag readiness light is working. See *Airbag Readiness Light ⇨ 108*.

Caution

If an airbag covering is damaged, opened, or broken, the airbag may not work properly. Do not open or break the airbag coverings. If there are any opened or broken airbag coverings, have the airbag covering and/or airbag module replaced. For the location of the airbags, see *Where Are the Airbags? ⇨ 65*. See your dealer for service.

Replacing Airbag System Parts after a Crash

⚠ Warning

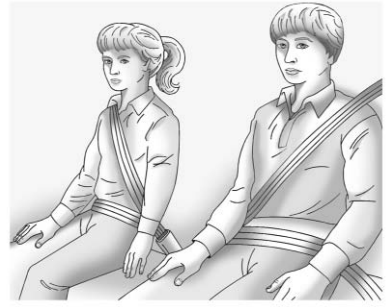
A crash can damage the airbag systems in the vehicle.
A damaged airbag system may not work properly and may not protect you and your passenger(s) in a crash, resulting in serious injury or even death. To help make sure the airbag systems are working properly after a crash, have them inspected and any necessary replacements made as soon as possible.

If an airbag inflates, you will need to replace airbag system parts. See your dealer for service.

If the airbag readiness light stays on after the vehicle is started or comes on when you are driving, the airbag system may not work properly. Have the vehicle serviced right away. See *Airbag Readiness Light ⇨ 108*.

Child Restraints

Older Children



Older children who have outgrown booster seats should wear the vehicle safety belts.

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The manufacturer's instructions that come with the booster seat state the weight and height limitations for that booster. Use a booster seat with a lap-shoulder belt until the child passes the fit test below:

- Sit all the way back on the seat. Do the knees bend at the seat edge? If yes, continue. If no, return to the booster seat.
- Buckle the lap-shoulder belt. Does the shoulder belt rest on the shoulder? If yes, continue. If no, return to the booster seat.
- Does the lap belt fit low and snug on the hips, touching the thighs? If yes, continue. If no, return to the booster seat.
- Can proper safety belt fit be maintained for the length of the trip? If yes, continue. If no, return to the booster seat.

Q: What is the proper way to wear safety belts?

A: An older child should wear a lap-shoulder belt and get the additional restraint a shoulder belt can provide. The shoulder belt should not cross the face or neck. The lap belt should fit snugly below the hips, just touching the top of the thighs. This applies belt force to the child's pelvic bones in a crash. It should never be worn over the abdomen, which could cause severe or even fatal internal injuries in a crash.

According to accident statistics, children are safer when properly restrained in a rear seating position.

In a crash, children who are not buckled up can strike other people who are buckled up, or can be thrown out of the vehicle. Older children need to use safety belts properly.

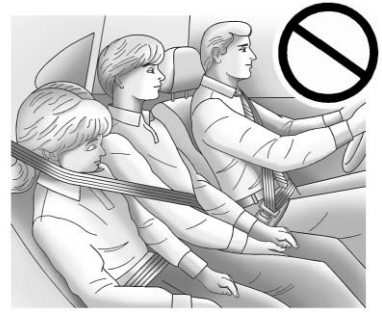
⚠ Warning

Never allow more than one child to wear the same safety belt. The safety belt cannot properly spread the impact forces. In a crash, they can be crushed together and

(Continued)

Warning (Continued)

seriously injured. A safety belt must be used by only one person at a time.



⚠ Warning

Never allow a child to wear the safety belt with the shoulder belt behind their back. A child can be seriously injured by not wearing the lap-shoulder belt properly. In a crash, the child would not be

(Continued)

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Warning (Continued)

restrained by the shoulder belt. The child could move too far forward increasing the chance of head and neck injury. The child might also slide under the lap belt. The belt force would then be applied right on the abdomen. That could cause serious or fatal injuries. The shoulder belt should go over the shoulder and across the chest.



Infants and Young Children

Everyone in a vehicle needs protection! This includes infants and all other children. Neither the distance traveled nor the age and size of the traveler changes the need, for everyone, to use safety restraints. In fact, the law in every state in the United States and in every Canadian province says children up to some age must be restrained while in a vehicle.

⚠ Warning

Children can be seriously injured or strangled if a shoulder belt is wrapped around their neck. The shoulder belt can tighten but cannot be loosened if it is locked. The shoulder belt locks when it is pulled all the way out of the retractor. It unlocks when the shoulder belt is allowed to go all the way back into the retractor, but it cannot do this if it is

(Continued)

Warning (Continued)

wrapped around a child's neck. If the shoulder belt is locked and tightened around a child's neck, the only way to loosen the belt is to cut it.

Never leave children unattended in a vehicle and never allow children to play with the safety belts.

Every time infants and young children ride in vehicles, they should have the protection provided by appropriate child restraints. Neither the vehicle's safety belt system nor its airbag system is designed for them.

Children who are not restrained properly can strike other people, or can be thrown out of the vehicle.

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⚠ Warning

Never hold an infant or a child while riding in a vehicle. Due to crash forces, an infant or a child will become so heavy it is not possible to hold it during a crash. For example, in a crash at only 40 km/h (25 mph), a 5.5 kg (12 lb) infant will suddenly become a 110 kg (240 lb) force on a person's arms. An infant should be secured in an appropriate restraint.



⚠ Warning

Children who are up against, or very close to, any airbag when it inflates can be seriously injured or killed. Never put a rear-facing child restraint in the front outboard seat. Secure a rear-facing child restraint in a rear seat. It is also better to secure a forward-facing child restraint in a rear seat. If you must secure a forward-facing child restraint in the front outboard seat, always move the front passenger seat as far back as it will go.



Q: What are the different types of add-on child restraints?

A: Add-on child restraints, which are purchased by the vehicle owner, are available in four basic types. Selection of a particular restraint should take into consideration not only the child's weight, height, and age but also whether or not the restraint will be compatible with the motor vehicle in which it will be used.

For most basic types of child restraints, there are many different models available. When purchasing a child restraint, be sure it is designed to be used in a motor vehicle. If it is, the

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restraint will have a label saying that it meets federal motor vehicle safety standards.

The restraint manufacturer instructions that come with the restraint state the weight and height limitations for a particular child restraint. In addition, there are many kinds of restraints available for children with special needs.

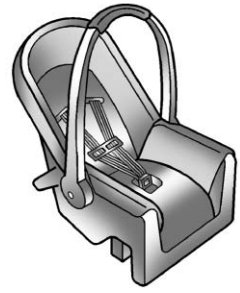
⚠ Warning

To reduce the risk of neck and head injury in a crash, infants and toddlers should be secured in a rear-facing child restraint until age two, or until they reach the maximum height and weight limits of their child restraint.

⚠ Warning

A young child's hip bones are still so small that the vehicle's regular safety belt may not remain low on the hip bones, as it should. Instead, it may settle up around the child's abdomen. In a crash, the belt would apply force on a body area that is unprotected by any bony structure. This alone could cause serious or fatal injuries. To reduce the risk of serious or fatal injuries during a crash, young children should always be secured in appropriate child restraints.

Child Restraint Systems



Rear-Facing Infant Seat

A rear-facing infant seat provides restraint with the seating surface against the back of the infant.

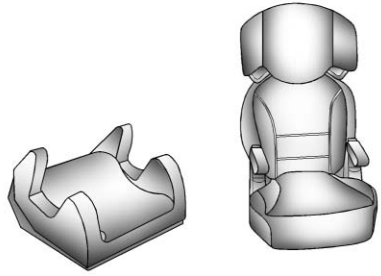
The harness system holds the infant in place and, in a crash, acts to keep the infant positioned in the restraint.

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Forward-Facing Child Seat

A forward-facing child seat provides restraint for the child's body with the harness.



Booster Seats

A booster seat is a child restraint designed to improve the fit of the vehicle's safety belt system.
A booster seat can also help a child to see out the window.

Securing an Add-On Child Restraint in the Vehicle

⚠ Warning

A child can be seriously injured or killed in a crash if the child restraint is not properly secured in the vehicle. Secure the child

(Continued)

Warning (Continued)

restraint properly in the vehicle using the vehicle safety belt or LATCH system, following the instructions that came with that child restraint and the instructions in this manual.

To help reduce the chance of injury, the child restraint must be secured in the vehicle. Child restraint systems must be secured in vehicle seats by lap belts or the lap belt portion of a lap-shoulder belt, or by the LATCH system. See *Lower Anchors and Tethers for Children (LATCH System)* ⇨ *82*. Children can be endangered in a crash if the child restraint is not properly secured in the vehicle.

When securing an add-on child restraint, refer to the instructions that come with the restraint which may be on the restraint itself or in a booklet, or both, and to this manual. The child restraint instructions are

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important, so if they are not available, obtain a replacement copy from the manufacturer.

Keep in mind that an unsecured child restraint can move around in a collision or sudden stop and injure people in the vehicle. Be sure to properly secure any child restraint in the vehicle — even when no child is in it.

In some areas of the United States and Canada, Certified Child Passenger Safety Technicians (CPSTs) are available to inspect and demonstrate how to correctly use and install child restraints. In the U.S., refer to the National Highway Traffic Safety Administration (NHTSA) website to locate the nearest child safety seat inspection station. For CPST availability in Canada, check with Transport Canada or the Provincial Ministry of Transportation office.

Securing the Child Within the Child Restraint

⚠ Warning

A child can be seriously injured or killed in a crash if the child is not properly secured in the child restraint. Secure the child properly following the instructions that came with that child restraint.

Where to Put the Restraint

According to accident statistics, children and infants are safer when properly restrained in a child restraint system or infant restraint system secured in a rear seating position.

Whenever possible, children aged 12 and under should be secured in a rear seating position.

Never put a rear-facing child seat in the front. This is because the risk to the rear-facing child is so great if the airbag deploys.

⚠ Warning

A child in a rear-facing child restraint can be seriously injured or killed if the front passenger airbag inflates. This is because the back of the rear-facing child restraint would be very close to the inflating airbag. A child in a forward-facing child restraint can be seriously injured or killed if the front passenger airbag inflates and the passenger seat is in a forward position.

Even if the passenger sensing system has turned off the front passenger frontal airbag, no system is fail-safe. No one can guarantee that an airbag will not deploy under some unusual circumstance, even though it is turned off.

Secure rear-facing child restraints in a rear seat, even if the airbag is off. If you secure a forward-facing child restraint in

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Warning (Continued)

the front seat, always move the front passenger seat as far back as it will go. It is better to secure the child restraint in a rear seat.

See *Passenger Sensing System* ⇨ *69* for additional information.

When securing a child restraint in a rear seating position, study the instructions that came with the child restraint to make sure it is compatible with this vehicle.

Child restraints and booster seats vary considerably in size, and some may fit in certain seating positions better than others. Do not install a child restraint in the rear center seating position if it cannot be installed securely.

Depending on where you place the child restraint and the size of the child restraint, you may not be able to access adjacent safety belt assemblies or LATCH anchors for additional passengers or child restraints. Adjacent seating positions should not be used if the child restraint prevents access to or interferes with the routing of the safety belt.

Wherever a child restraint is installed, be sure to secure the child restraint properly.

Keep in mind that an unsecured child restraint can move around in a collision or sudden stop and injure people in the vehicle. Be sure to properly secure any child restraint in the vehicle — even when no child is in it.

Lower Anchors and Tethers for Children (LATCH System)

The LATCH system secures a child restraint during driving or in a crash. LATCH attachments on the child restraint are used to attach the child restraint to the anchors in the vehicle. The LATCH system is designed to make installation of a child restraint easier.

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In order to use the LATCH system in your vehicle, you need a child restraint that has LATCH attachments. LATCH-compatible rear-facing and forward-facing child seats can be properly installed using either the LATCH anchors or the vehicle's safety belts. Do not use both the safety belts and the LATCH anchorage system to secure a rear-facing or forward-facing child seat.

Booster seats use the vehicle's safety belts to secure the child in the booster seat. If the manufacturer recommends that the booster seat be secured with the LATCH system, this can be done as long as the booster seat can be positioned properly and there is no interference with the proper positioning of the lap-shoulder belt on the child.

Make sure to follow the instructions that came with the child restraint, and also the instructions in this manual.

When installing a child restraint with a top tether, you must also use either the lower anchors or the

safety belts to properly secure the child restraint. A child restraint must never be attached using only the top tether.

The LATCH anchorage system can be used until the combined weight of the child plus the child restraint is 29.5 kg (65 lbs). Use the safety belt alone instead of the LATCH anchorage system once the combined weight is more than 29.5 kg (65 lbs).

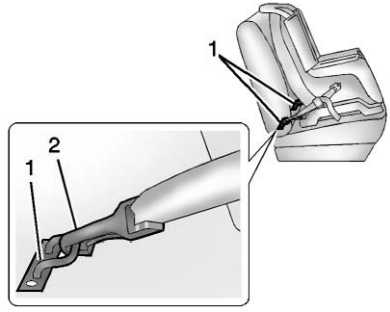
See *Securing Child Restraints (With the Safety Belt in the Front Seat)* ⇨ *90* or *Securing Child Restraints (With the Safety Belt in the Rear Seat)* ⇨ *88*.

Child restraints built after March 2014 will be labeled with the specific child weight up to which the LATCH system can be used to install the restraint.

The following explains how to attach a child restraint with these attachments in the vehicle.

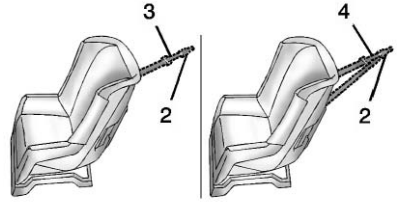
Not all vehicle seating positions or child restraints have lower anchors and attachments or top tether anchors and attachments. In this case, the safety belt must be used (with top tether where available) to secure the child restraint. See *Securing Child Restraints (With the Safety Belt in the Front Seat)* ⇨ *90* or *Securing Child Restraints (With the Safety Belt in the Rear Seat)* ⇨ *88*.

Lower Anchors



Lower anchors (1) are metal bars built into the vehicle. There are two lower anchors for each LATCH seating position that will accommodate a child restraint with lower attachments (2).

Top Tether Anchor



A top tether (3, 4) anchors the top of the child restraint to the vehicle. A top tether anchor is built into the vehicle. The top tether attachment (2) on the child restraint connects to the top tether anchor in the vehicle in order to reduce the forward movement and rotation of the child restraint during driving or in a crash.

The child restraint may have a single tether (3) or a dual tether (4). Either will have a single attachment (2) to secure the top tether to the anchor.

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Some child restraints that have a top tether are designed for use with or without the top tether being attached. Others require the top tether always to be attached. In Canada, the law requires that forward-facing child restraints have a top tether, and that the tether be attached. Be sure to read and follow the instructions for your child restraint.

Lower Anchor and Top Tether Anchor Locations



Rear Seat

: Seating positions with top tether anchors.

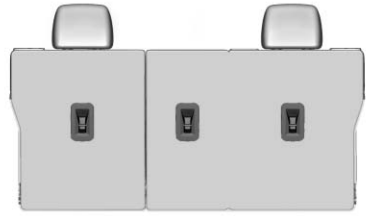
: Seating positions with two lower anchors.



To assist in locating the lower anchors, each seating position with lower anchors has two labels, near the crease between the seatback and the seat cushion.



To assist in locating the top tether anchors, the top tether anchor symbol is near the top tether anchor.



Top Tether Anchors

The top tether anchors for outboard rear seating positions are on the back of the rear seatback. Be sure to use an anchor on the same side of the vehicle as the seating position where the child restraint will be placed.

Do not secure a child restraint in a position without a top tether anchor if a national or local law requires that the top tether be attached, or if the instructions that come with the child restraint say that the top tether must be attached.

According to accident statistics, children and infants are safer when properly restrained in a child restraint system or infant restraint system secured in a rear seating

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position. See *Where to Put the Restraint* ⇨ *81* for additional information.

Securing a Child Restraint Designed for the LATCH System

⚠ Warning

If a LATCH-type child restraint is not attached to anchors, the child restraint will not be able to protect the child correctly. In a crash, the child could be seriously injured or killed. Install a LATCH-type child restraint properly using the anchors, or use the vehicle's safety belts to secure the restraint, following the instructions that came with the child restraint and the instructions in this manual.

⚠ Warning

To reduce the risk of serious or fatal injuries during a crash, do not attach more than one child restraint to a single anchor. Attaching more than one child restraint to a single anchor could cause the anchor or attachment to come loose or even break during a crash. A child or others could be injured.

⚠ Warning

Children can be seriously injured or strangled if a shoulder belt is wrapped around their neck. The shoulder belt can tighten but cannot be loosened if it is locked. The shoulder belt locks when it is pulled all the way out of the retractor. It unlocks when the shoulder belt is allowed to go all the way back into the retractor, but it cannot do this if it is

(Continued)

Warning (Continued)

wrapped around a child's neck. If the shoulder belt is locked and tightened around a child's neck, the only way to loosen the belt is to cut it.

Buckle any unused safety belts behind the child restraint so children cannot reach them. Pull the shoulder belt all the way out of the retractor to set the lock, and tighten the belt behind the child restraint after the child restraint has been installed.

Caution

Do not let the LATCH attachments rub against the vehicle's safety belts. This may damage these parts. If necessary, move buckled safety belts to avoid rubbing the LATCH attachments.

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Caution (Continued)

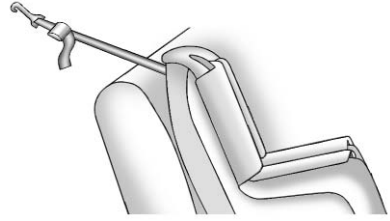
Do not fold the rear seatback when the seat is occupied. Do not fold the empty rear seat with a safety belt buckled. This could damage the safety belt or the seat. Unbuckle and return the safety belt to its stowed position, before folding the seat.

If you need to secure more than one child restraint in the rear seat, see *Where to Put the Restraint* ⇨ *81*.

This system is designed to make the installation of child restraints easier. When using lower anchors, do not use the vehicle's safety belts. Instead, use the vehicle's anchors and child restraint attachments to secure the restraints. Some restraints also use another vehicle anchor to secure a top tether.

1. Attach and tighten the lower attachments to the lower anchors. If the child restraint does not have lower attachments or the desired seating position does not have lower anchors, secure the child restraint with the top tether and the safety belts. Refer to your child restraint manufacturer instructions and the instructions in this manual.
 1.1. Find the lower anchors for the desired seating position.
 1.2. Put the child restraint on the seat.

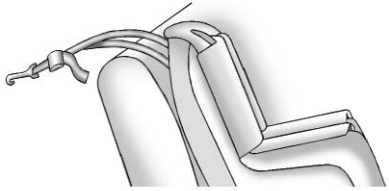
 If the head restraint interferes with the proper installation of the child restraint, adjust the head restraint upward.
 1.3. Attach and tighten the lower attachments on the child restraint to the lower anchors.
2. If the child restraint manufacturer recommends that the top tether be attached, attach and tighten the top tether to the top tether anchor, if equipped. Refer to the child restraint instructions and the following steps:
 2.1. Find the top tether anchor on the back of the rear seatback.
 2.2. Route, attach, and tighten the top tether according to your child restraint instructions and the following instructions:



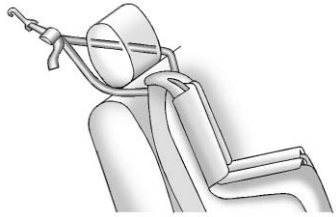
If the position you are using does not have a headrest or head restraint, or the headrest or head restraint has been removed, and you are

DEP DEALER E-PROCESS

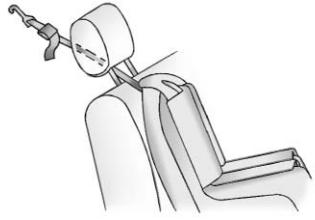
using a single tether, route the tether over the seatback.



If the position you are using does not have a headrest or head restraint, or the headrest or head restraint has been removed, and you are using a dual tether, route the tether over the seatback.



If the rear outboard seating position you are using has an adjustable head restraint and you are using a dual tether, route the tether around the head restraint.



If the rear outboard seating position you are using has an adjustable head restraint and you are using a single tether, raise the head restraint and route the tether under the head restraint and in between the head restraint posts.

3. Before placing a child in the child restraint, make sure it is securely held in place. To check, grasp the child restraint at the LATCH path and attempt to move it side to side and back and forth. There should be no more than 2.5 cm (1 in) of movement for proper installation.

Replacing LATCH System Parts After a Crash

⚠ Warning

A crash can damage the LATCH system in the vehicle. A damaged LATCH system may not properly secure the child restraint, resulting in serious injury or even death in a crash. To help make

(Continued)

DEP DEALER E-PROCESS

Warning (Continued)

sure the LATCH system is working properly after a crash, see your dealer to have the system inspected and any necessary replacements made as soon as possible.

If the vehicle has the LATCH system and it was being used during a crash, new LATCH system parts may be needed.

New parts and repairs may be necessary even if the LATCH system was not being used at the time of the crash.

Securing Child Restraints (With the Safety Belt in the Rear Seat)

When securing a child restraint in a rear seating position, study the instructions that came with the child restraint to make sure it is compatible with this vehicle.

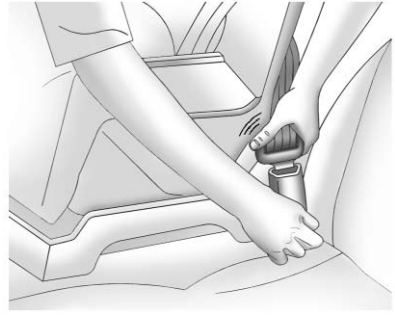
If the child restraint has the LATCH system, see *Lower Anchors and Tethers for Children (LATCH System)* ⇨ *82* for how and where to install the child restraint using LATCH. If a child restraint is secured in the vehicle using a safety belt and it uses a top tether, see *Lower Anchors and Tethers for Children (LATCH System)* ⇨ *82* for top tether anchor locations.

Do not secure a child seat in a position without a top tether anchor if a national or local law requires that the top tether be anchored, or if the instructions that come with the child restraint say that the top strap must be anchored.

If the child restraint or vehicle seat position does not have the LATCH system, you will be using the safety belt to secure the child restraint in this position. Be sure to follow the instructions that came with the child restraint. Secure the child in the child restraint when and as the instructions say.

If more than one child restraint needs to be installed in the rear seat, be sure to read *Where to Put the Restraint* ⇨ *81*.

1. Put the child restraint on the seat.
2. Pick up the latch plate, and run the lap and shoulder portions of the vehicle's safety belt through or around the restraint. The child restraint instructions will show you how.



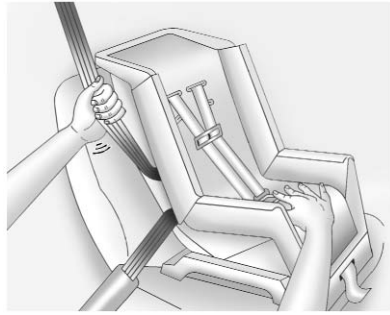
3. Push the latch plate into the buckle until it clicks.

DEP DEALER E-PROCESS

Position the release button on the buckle so that the safety belt could be quickly unbuckled if necessary.



4. Pull the shoulder belt all the way out of the retractor to set the lock. When the retractor lock is set, the belt can be tightened but not pulled out of the retractor.



5. To tighten the belt, push down on the child restraint, pull the shoulder portion of the belt to tighten the lap portion of the belt, and feed the shoulder belt back into the retractor. When installing a forward-facing child restraint, it may be helpful to use your knee to push down on the child restraint as you tighten the belt.

 Try to pull the belt out of the retractor to make sure the retractor is locked. If the retractor is not locked, repeat Steps 4 and 5.

6. If the child restraint has a top tether, follow the child restraint manufacturer's instructions regarding the use of the top tether. See *Lower Anchors and Tethers for Children (LATCH System)* ⇨ *82* for more information.
7. Before placing a child in the child restraint, make sure it is securely held in place. To check, grasp the child restraint at the safety belt path and attempt to move it side to side and back and forth. When the child restraint is properly installed, there should be no more than 2.5 cm (1 in) of movement.

To remove the child restraint, unbuckle the vehicle safety belt and let it return to the stowed position. If the top tether is attached to a top tether anchor, disconnect it.

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DEALER E-PROCESS

Securing Child Restraints (With the Safety Belt in the Front Seat)

This vehicle has airbags. A rear seat is a safer place to secure a forward-facing child restraint. See *Where to Put the Restraint* ⇨ *81*.

In addition, the vehicle has a passenger sensing system which is designed to turn off the front outboard passenger frontal airbag and passenger knee airbag under certain conditions. See *Passenger Sensing System* ⇨ *69* and *Passenger Airbag Status Indicator* ⇨ *108* for more information, including important safety information.

Never put a rear-facing child seat in the front. This is because the risk to the rear-facing child is so great, if the airbag deploys.

⚠ Warning

A child in a rear-facing child restraint can be seriously injured or killed if the front outboard passenger frontal airbag inflates. This is because the back of the rear-facing child restraint would be very close to the inflating airbag. A child in a forward-facing child restraint can be seriously injured or killed if the front outboard passenger frontal airbag inflates and the passenger seat is in a forward position.

Even if the passenger sensing system has turned off the front outboard passenger airbag(s), no system is fail-safe. No one can guarantee that an airbag will not inflate under some unusual circumstance, even though the airbag(s) are off.

Secure rear-facing child restraints in a rear seat, even if the airbag(s) are off. If you secure a

(Continued)

Warning (Continued)

forward-facing child restraint in the front outboard passenger seat, always move the seat as far back as it will go. It is better to secure the child restraint in a rear seat.

See *Passenger Sensing System* ⇨ *69* for additional information.

If the child restraint uses a top tether, see *Lower Anchors and Tethers for Children (LATCH System)* ⇨ *82* for top tether anchor locations.

Do not secure a child seat in a position without a top tether anchor if a national or local law requires that the top tether be anchored, or if the instructions that come with the child restraint say that the top strap must be anchored.

In Canada, the law requires that forward-facing child restraints have a top tether, and that the tether be attached.

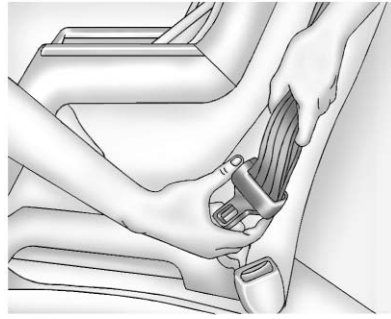
DEP DEALER E-PROCESS

When using the lap-shoulder belt to secure the child restraint in this position, follow the instructions that came with the child restraint and the following instructions:

1. Move the seat as far back as it will go before securing the forward-facing child restraint.

 When the passenger sensing system has turned off the front outboard passenger frontal airbag and passenger knee airbag, the off indicator on the passenger airbag status indicator should light and stay lit when you start the vehicle. See *Passenger Airbag Status Indicator* ⇨ *108*.

2. Put the child restraint on the seat.
3. Pick up the latch plate, and run the lap and shoulder portions of the vehicle's safety belt through or around the restraint. The child restraint instructions will show you how.



Tilt the latch plate to adjust the belt if needed.



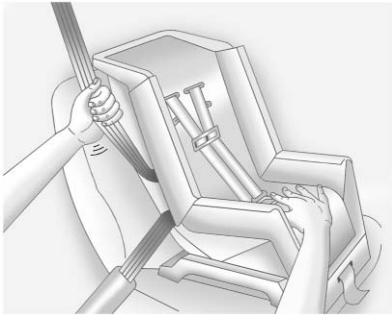
4. Push the latch plate into the buckle until it clicks.

 Position the release button on the buckle so that the safety belt could be quickly unbuckled if necessary.



5. Pull the shoulder belt all the way out of the retractor to set the lock. When the retractor lock is set, the belt can be tightened but not pulled out of the retractor.

DEP DEALER E-PROCESS



6. To tighten the belt, push down on the child restraint, pull the shoulder portion of the belt to tighten the lap portion of the belt, and feed the shoulder belt back into the retractor. When installing a forward-facing child restraint, it may be helpful to use your knee to push down on the child restraint as you tighten the belt.

 Try to pull the belt out of the retractor to make sure the retractor is locked. If the retractor is not locked, repeat Steps 5 and 6.

7. Before placing a child in the child restraint, make sure it is securely held in place. To check, grasp the child restraint at the safety belt path and attempt to move it side to side and back and forth. When the child restraint is properly installed, there should be no more than 2.5 cm (1 in) of movement.

If the airbags are off, the off indicator in the passenger airbag status indicator will come on and stay on when the vehicle is started.

If a child restraint has been installed and the on indicator is lit, see “If the On Indicator Is Lit for a Child Restraint” under *Passenger Sensing System* ⇨ *69* for more information.

To remove the child restraint, unbuckle the vehicle safety belt and let it return to the stowed position.

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Storage

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Storage Compartments

⚠ Warning

Do not store heavy or sharp objects in storage compartments. In a crash, these objects may cause the cover to open and could result in injury.

Glove Box

Open the glove box by lifting up on the lever.

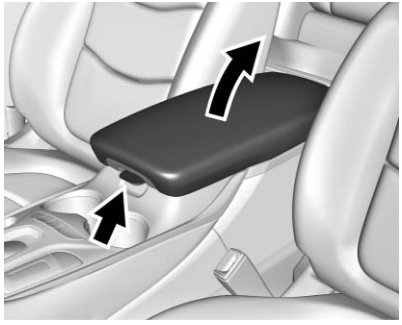
Rear Storage



There is storage in the rear. Turn the handle horizontal to open.

DEP
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Center Console Storage



There is storage under the armrest. Press the button and lift to access.

Additional Storage Features

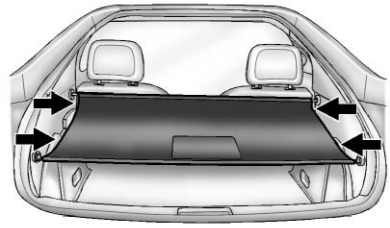
Cargo Cover

⚠ Warning

An unsecured cargo cover could strike people in a sudden stop or turn, or in a crash. Store the cargo cover securely or remove it from the vehicle.

⚠ Warning

Do not place objects on the cargo cover. Sudden stops or turns can cause objects to be thrown in the vehicle. You or others could be injured.



There is a cover for the rear cargo area. Use the four cargo cover loops to hook the cover to the side panels.

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Controls

Steering Wheel Adjustment



To adjust the steering wheel:

1. Pull the lever down.
2. Move the steering wheel up or down.
3. Pull or push the steering wheel closer or away from you.
4. Pull the lever up to lock the steering wheel in place.

Do not adjust the steering wheel while driving.

Steering Wheel Controls

The infotainment system can be operated by using the steering wheel controls. See "Steering Wheel Controls" in the infotainment manual.

Heated Steering Wheel



: If equipped, press to turn on or off. A light on the button displays when the feature is turned on.

The steering wheel takes about three minutes to start heating.

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Horn

Press on the steering wheel pad to sound the horn.

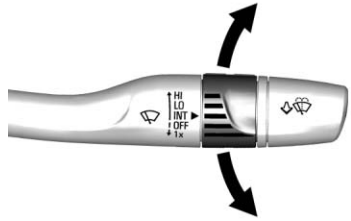
Windshield Wiper/Washer



The windshield wiper/washer lever is on the side of the steering column. With the ignition in ACC/ACCESSORY or ON/RUN, move the windshield wiper lever to select the wiper speed.

HI : Use for fast wipes.

LO : Use for slow wipes.



INT : Move the lever up to INT for intermittent wipes, then turn the band up for more frequent wipes or down for less frequent wipes.

OFF : Use to turn the wipers off.

1X : For a single wipe, briefly move the lever down. For several wipes, hold the lever down.

Clear snow and ice from the wiper blades and windshield before using them. If frozen to the windshield, carefully loosen or thaw them. Damaged blades should be replaced. See *Wiper Blade Replacement* ⇨ *258*.

Heavy snow or ice can overload the wiper motor. If the wiper motor overheats, the windshield wipers will stop until the motor cools and the wiper control is turned off. See *Electrical System Overload* ⇨ *262*.

Wiper Parking

If the vehicle is turned to STOPPING THE VEHICLE/OFF while the wipers are on LO, HI, or INT, they will immediately stop.

If the windshield wiper lever is then moved to OFF before the driver door is opened or within 10 minutes, the wipers will restart and move to the base of the windshield.

If the vehicle is turned to STOPPING THE VEHICLE/OFF while the wipers are performing wipes due to windshield washing, the wipers continue to run until they reach the base of the windshield.

: Pull the windshield wiper lever toward you to spray windshield washer fluid and activate the wipers. The wipers will continue until the lever is released or the maximum wash time is reached. When the lever is released, additional wipes may occur depending on how long the windshield washer had been

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activated. See *Washer Fluid* ⇨ *253* for information on filling the windshield washer fluid reservoir.

⚠ Warning

In freezing weather, do not use the washer until the windshield is warmed. Otherwise the washer fluid can form ice on the windshield, blocking your vision.

Compass

The vehicle may have a compass display on the Driver Information Center (DIC). The compass receives its heading and other information from the Global Positioning System (GPS) antenna, StabiliTrak®, and vehicle speed information.

The compass system is designed to operate for a certain number of miles or degrees of turn before needing a signal from the GPS satellites. When the compass display shows CAL, drive the vehicle for a short distance in an open area where it can receive a GPS signal. The compass system will automatically determine when a GPS signal is restored and provide a heading again. See *Compass Messages* ⇨ *133* for the messages that may be displayed for the compass.

Clock

Setting the Time and Date

To set the time:

1. Touch SETTINGS on the Home Page, then touch Time and Date.
2. Touch Set Time, then touch ∧ or ∨ to increase or decrease hours, minutes, and AM or PM. Touch 12–24 Hr for 12 or 24 hour clock.
3. Touch < to go back to the previous menu.

Auto Set requires an active connection to OnStar.

If auto timing is set, the time displayed on the clock may not update immediately when driving into a new time zone.

To set the date:

1. Touch SETTINGS on the Home Page, then touch Time and Date.
2. Touch Set Date, then touch ∧ or ∨ to increase or decrease month, day, or year.
3. Touch < to go back to the previous menu.

To set the clock display:

1. Touch SETTINGS on the Home Page, then touch Time and Date.
2. Touch Clock Display, then touch Off or On to turn the clock display off or on.
3. Touch < to go back to the previous menu.

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Power Outlets

The accessory power outlets can be used to plug in electrical equipment, such as a cell phone or MP3 player.

There are two accessory power outlets:

- In the storage area below the climate control system.
- On the rear of the front console armrest.

The power outlets supply power while the vehicle is on, or if the vehicle is in Retained Accessory Power (RAP). See *Retained Accessory Power (RAP)* ⇨ *177*.

Lift the cover to access and replace when not in use.

Certain accessory plugs may not be compatible with the accessory power outlet and could overload vehicle or adapter fuses. If a problem is experienced, see your dealer.

When adding electrical equipment, be sure to follow the installation instructions included with the equipment. See *Add-On Electrical Equipment* ⇨ *234*.

Caution

Hanging heavy equipment from the power outlet can cause damage not covered by the vehicle warranty. The power outlets are designed for accessory power plugs only, such as cell phone charge cords.

Wireless Charging

The vehicle may have a wireless charging pocket inside the armrest of the center console. The system wirelessly charges one PMA or Qi compatible mobile device.

To check for phone or other device compatibility:

- In the U.S., see my.chevrolet.com/learn.
- In Canada, see gmtotalconnect.ca.
- Or, see your dealer for details.

⚠ Warning

Wireless charging can affect the operation of an implanted pacemaker or other medical devices. If you have one, it is recommended to consult with your doctor before using the wireless charging system.

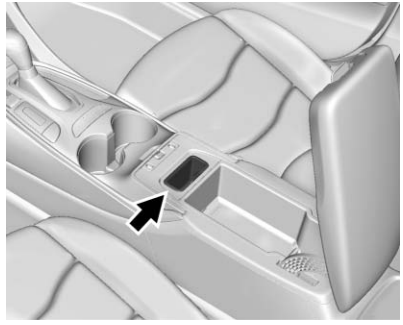
The vehicle must be in ON/RUN, ACC/ACCESSORY, or Retained Accessory Power (RAP). The wireless charging feature may not correctly indicate charging when the vehicle is in RAP. See *Retained Accessory Power (RAP)* ⇨ *177*.

The operating temperature is −20 °C (−4 °F) to 60 °C (140 °F) for the charging system and 0 °C (32 °F) to 35 °C (95 °F) for the phone.

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⚠ Warning

Remove all metal objects from the charging pocket before charging your mobile device. Metal objects, such as coins, keys, rings, or paper clips, between the phone and the charger will become very hot. On the rare occasion that the charging system does not detect a metal object, and the object gets wedged between the phone and the charger, remove the phone and allow the metallic object to cool before removing it from the charging pocket, to prevent burns.



To charge a mobile device:

1. Remove all objects from the charging pocket. The system may not charge if there are any objects in the charging pocket.
2. With the mobile device screen facing the rear of the vehicle, slowly insert the device into the charging pocket until ⚡ displays on the infotainment screen. This indicates that the mobile device is properly positioned and charging. If a phone is inserted into the pocket and ⚡ does not display, remove the phone from the pocket, turn 180 degrees and wait three seconds before inserting the phone into the pocket again.

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Warning Lights, Gauges, and Indicators

Warning lights and gauges can signal that something is wrong before it becomes serious enough to cause an expensive repair or replacement. Paying attention to the warning lights and gauges could prevent injury.

Some warning lights come on briefly when the propulsion system is started to indicate they are working. When one of the warning lights comes on and stays on while driving, or when one of the gauges shows there may be a problem, check the section that explains what to do. Waiting to do repairs can be costly and even dangerous.

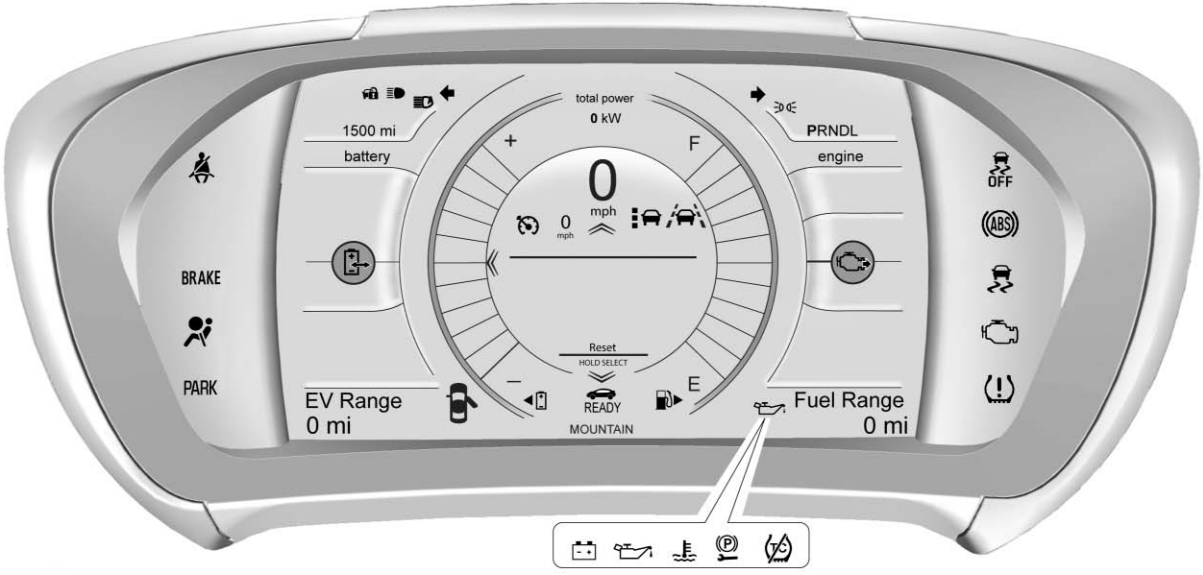
Instrument Cluster

The instrument cluster displays a preview of information that includes electric range, charging, odometer, and battery status. This happens upon entry when the driver door is opened before starting the vehicle.

The CHARGING OVERRIDE/ INTERRUPTION OCCURRED message may display to indicate that a charging override or interruption has occurred due to one or more of the following events:

- Override of the charge settings by the owner using OnStar.
- Unintended interruption of AC power at the vehicle's charge port.
- Interruption of charging by the utility company using OnStar as authorized by the vehicle owner.

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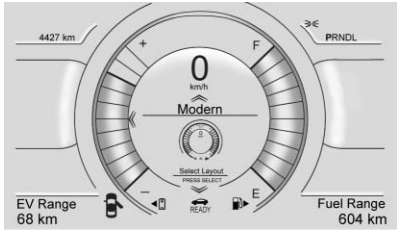


English Cluster Shown, Metric Similar

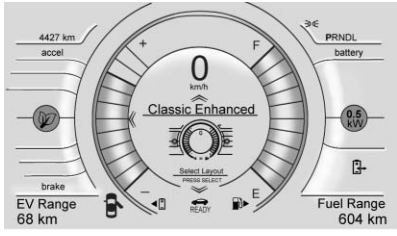
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Reconfigurable Instrument Cluster

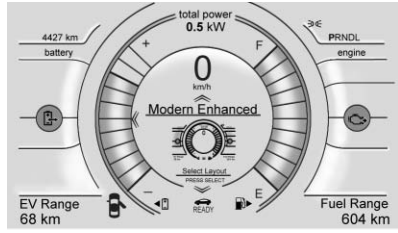
There are four instrument cluster display configurations to choose from: Classic, Modern, Classic Enhanced, or Modern Enhanced.



Classic and Modern



Classic Enhanced



Modern Enhanced

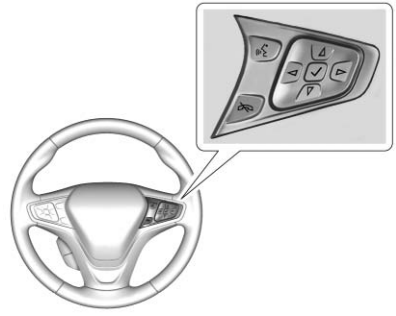
Use the five-way control on the right side of the steering wheel to move between the different display zones and scroll through the different displays.

To change the cluster configuration:

1. Press ◁ to access the cluster applications.
2. Use △ or ▽ to scroll through the list until Display Layout is highlighted. Then press ✓ to select it.
3. Each layout in the menu is represented by a small preview image of the display layout. Scroll up or down and highlight the selection. Press ✓ to select the desired cluster configuration.
4. Exit the Display Layout menu by pressing ◁.

Cluster Menu

There is an interactive display area in the center of the instrument cluster.



Use the right steering wheel control to open and scroll through the different items and displays.

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DEALER E-PROCESS

Press ◁ to access the cluster applications. Use △ or ▽ to scroll through the list of applications.

- Info. This is where you can view the Driver Information Center (DIC) displays. See *Driver Information Center (DIC)* ⇨ *130*.
- Audio
- Phone
- Navigation
- Display Layout. See “Reconfigurable Instrument Cluster” earlier in this section.
- Settings

Audio

While the Audio application page is displayed, press ▷ to enter the Audio menu. In the Audio menu, search for music or change the audio source.

Phone

While the Phone application page is displayed, press ▷ to enter the Phone menu. In the Phone menu, if there is no active phone call, view recent calls or scroll through contacts. If there is an active call, mute the phone or switch to handset operation.

Navigation

If there is no active route, a compass will be displayed. If there is an active route, press ▷ to end route guidance or turn the voice prompts on or off.

Settings

Press ▷ to enter the Settings menu. Use △ or ▽ to scroll through the items in the Settings menu

Units : Press ✓ while Units is highlighted to enter the Unit menu. Choose US, Metric, or Imperial units by pressing ✓ while the desired item is highlighted. A checkmark will be displayed next to the selected item.

Speed Warning : The Speed Warning display allows the driver to set a speed that they do not want to exceed. To set the Speed Warning, press ✓ when Speed Warning is displayed. Press △ or ▽ to adjust the value. Press ✓ to set the speed. Once the speed is set, this feature can be turned off by pressing ✓ while viewing this page. If the selected speed limit is exceeded, a pop-up warning is displayed with a chime.

Tutorial : Press ✓ while Tutorial is highlighted to view the tutorials that explain some of the features of the instrument cluster. The tutorials are only available when the vehicle is in P (Park).

Open Source Software : Press ✓ while Open Source Software is highlighted to display open source software information.

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Speedometer

The speedometer shows the vehicle's speed in either kilometers per hour (km/h) or miles per hour (mph).

Odometer

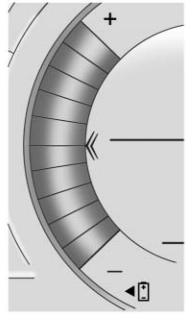
The odometer shows how far the vehicle has been driven, in either kilometers or miles.

Trip Odometer

The trip odometer shows how far the vehicle has been driven since the trip odometer was last reset.

The trip odometer is accessed and reset through the Driver Information Center (DIC). See *Driver Information Center (DIC)* ⇨ *130*.

Battery Gauge (High Voltage)

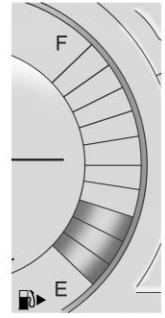


This gauge shows the high voltage battery charge level.

The arrow next to the battery symbol points to the side of the vehicle the charge port is on.

See *Electric Mode* ⇨ *180*.

Fuel Gauge



When the ignition is on, the fuel gauge indicates about how much fuel is left in the tank.

There is an arrow near the fuel gauge pointing to the side of the vehicle the fuel door is on.

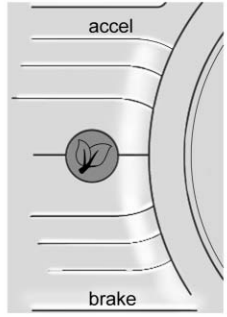
When the indicator nears empty, the low fuel light comes on. There still is a little fuel left, but the vehicle should be refueled soon.

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Here are some things that owners ask about. None of these show a problem with the fuel gauge:

- At the service station, the fuel pump shuts off before the gauge reads full.
- It takes a little more or less fuel to fill up than the gauge indicated. For example, the gauge may have indicated the tank was half full, but it actually took a little more or less than half the tank's capacity to fill the tank.
- The gauge takes a few seconds to stabilize after the ignition is turned on, and goes back to empty when the ignition is turned off.

Driver Efficiency Gauge



This gauge appears on the left side of the display in the Classic Enhanced configuration.

This gauge is a guide to driving in an efficient manner by keeping the ball green and in the center of the gauge.

See *Driving for Better Energy Efficiency* ⇨ *26*.

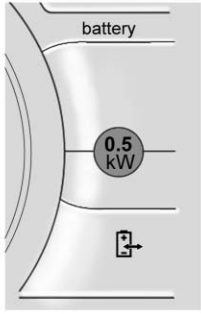
accel : If the ball turns yellow and travels above the center of the gauge, acceleration is too aggressive to optimize efficiency.

brake : If the ball turns yellow and travels below the center of the gauge, braking is too aggressive to optimize efficiency.

In the Modern display configurations, the light ring in the center of the display acts as an efficiency gauge. It is green when driving efficiently and turns yellow when acceleration or braking is too aggressive.

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Power Indicator Gauge



Battery Power Shown

The power gauge is on the right side of the display in the Classic Enhanced configuration and on both sides in the Modern Enhanced configuration.

The power gauge shows the power coming from the engine and/or battery. When the power indicator is green, battery power is being regenerated. When the indicator is yellow, the vehicle is using power.

Safety Belt Reminders

Driver Safety Belt Reminder Light

There is a driver safety belt reminder light on the instrument cluster.



When the vehicle is started, this light flashes and a chime may come on to remind the driver to fasten their safety belt. Then the light stays on solid until the belt is buckled. This cycle may continue several times if the driver remains or becomes unbuckled while the vehicle is moving.

If the driver safety belt is buckled, neither the light nor the chime comes on.

Passenger Safety Belt Reminder Light

There is a passenger safety belt reminder light near the passenger airbag status indicator. See *Passenger Sensing System* ⇨ *69*.



When the vehicle is started, this light flashes and a chime may come on to remind passengers to fasten their safety belt. Then the light stays on solid until the belt is buckled. This cycle continues several times if the passenger remains or becomes unbuckled while the vehicle is moving.

If the passenger safety belt is buckled, neither the chime nor the light comes on.

The front passenger safety belt reminder light and chime may turn on if an object is put on the seat such as a briefcase, handbag,

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grocery bag, laptop, or other electronic device. To turn off the reminder light and/or chime, remove the object from the seat or buckle the safety belt.

Airbag Readiness Light

This light shows if there is an electrical problem with the airbag system. The system check includes the airbag sensor(s), the passenger sensing system, the pretensioners, the airbag modules, the wiring, and the crash sensing and diagnostic module. For more information on the airbag system, see *Airbag System* ⇨ *63*.



The airbag readiness light comes on for several seconds when the vehicle is started. If the light does not come on then, have it fixed immediately.

⚠ Warning

If the airbag readiness light stays on after the vehicle is started or comes on while driving, it means the airbag system might not be working properly. The airbags in the vehicle might not inflate in a crash, or they could even inflate without a crash. To help avoid injury, have the vehicle serviced right away.

If there is a problem with the airbag system, a Driver Information Center (DIC) message may also come on. See *Airbag System Messages* ⇨ *139*.

Passenger Airbag Status Indicator

The vehicle has a passenger sensing system. See *Passenger Sensing System* ⇨ *69* for important safety information. The passenger airbag status indicator is in the overhead console.



When the vehicle is started, the passenger airbag status indicator will light ON and OFF for several seconds as a system check. Then, after several more seconds, the status indicator will light either ON or OFF to let you know the status of the front outboard passenger frontal airbag and knee airbag.

If the word ON is lit on the passenger airbag status indicator, it means that the front outboard passenger frontal airbag and knee airbag are allowed to inflate.

If the word OFF is lit on the airbag status indicator, it means that the passenger sensing system has turned off the front outboard passenger frontal airbag and knee airbag.

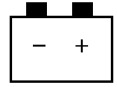
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If, after several seconds, both status indicator lights remain on, or if there are no lights at all, there may be a problem with the lights or the passenger sensing system. See your dealer for service.

⚠ Warning

If the airbag readiness light ever comes on and stays on, it means that something may be wrong with the airbag system. To help avoid injury to yourself or others, have the vehicle serviced right away. See *Airbag Readiness Light* ⇨ *108* for more information, including important safety information.

Charging System Light (12-Volt Battery)



The charging system light comes on briefly when the vehicle is in ON/RUN, as a check to show the light is working.

If the light stays on, or comes on while driving, there could be a problem with the electrical charging system. Have it checked by your dealer. Driving while this light is on could drain the 12-volt battery.

If a short distance must be driven with the light on, be sure to turn off all accessories, such as the radio.

Malfunction Indicator Lamp (Check Engine Light)

This light is part of the vehicle's emission control on-board diagnostic system. If this light is on while the engine is running, a malfunction has been detected and the vehicle may require service. The light should come on to show that it is working when the vehicle is in Service Only Mode. See *Power Button* ⇨ *175*.



Malfunctions are often indicated by the system before any problem is noticeable. Being aware of the light and seeking service promptly when it comes on may prevent damage.

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Caution

If the vehicle is driven continually with this light on, the emission control system may not work as well, the fuel economy may be lower, and the vehicle may not run smoothly. This could lead to costly repairs that might not be covered by the vehicle warranty.

Caution

Modifications to the engine, electric drive unit, exhaust, intake, or fuel system, or the use of replacement tires that do not meet the original tire specifications, can cause this light to come on. This could lead to costly repairs not covered by the vehicle warranty. This could also affect the vehicle's ability to pass an Emissions Inspection/ Maintenance test. See *Accessories and Modifications* ⇨ *237*.

If the light is flashing : A malfunction has been detected that could damage the emission control system and increase vehicle emissions. Diagnosis and service may be required.

To help prevent damage, reduce vehicle speed and avoid hard accelerations and uphill grades.

If the light continues to flash, find a safe place to park. Turn the vehicle off and wait at least 10 seconds before restarting the engine. If the light is still flashing, follow the previous guidelines and see your dealer for service as soon as possible.

If the light is on steady : A malfunction has been detected. Diagnosis and service may be required.

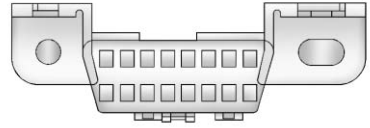
Check the following:

- A loose or missing fuel cap may cause the light to come on. See *Filling the Tank* ⇨ *231*. A few driving trips with the cap properly installed may turn the light off.
- Poor fuel quality can cause inefficient engine operation and poor driveability, which may go away once the engine is warmed up. If this occurs, change the fuel brand. It may require at least one full tank of the proper fuel to turn the light off. See *Fuel* ⇨ *230*.

If the light remains on, see your dealer.

Emissions Inspection and Maintenance Programs

If the vehicle requires an Emissions Inspection/Maintenance test, the test equipment will likely connect to the vehicle's Data Link Connector (DLC).



The DLC is under the instrument panel to the left of the steering wheel. Connecting devices that are

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not used to perform an Emissions Inspection/Maintenance test or to service the vehicle may affect vehicle operation. See *Add-On Electrical Equipment* ⇨ *234*. See your dealer if assistance is needed.

The vehicle may not pass inspection if:

- The light is on when the engine is running.
- The light does not come on when the vehicle is in Service Only Mode.
- Critical emission control systems have not been completely diagnosed. If this happens, the vehicle would not be ready for inspection and might require several days of routine driving before the system is ready for inspection. This can happen if the 12-volt battery has recently been replaced or run down, or if the vehicle has been recently serviced.

See your dealer if the vehicle will not pass or cannot be made ready for the test.

Brake System Warning Light

The vehicle brake system consists of two hydraulic circuits. If one circuit is not working, the remaining circuit can still work to stop the vehicle. For normal braking performance, both circuits need to be working.

If the warning light comes on, there is a brake problem. Have the brake system inspected right away.



Metric



English

This light should come on briefly when the engine is started. If it does not come on then, have it fixed so it will be ready to warn you if there is a problem.

If the light comes on and stays on, there is a brake problem.

⚠ Warning

The brake system might not be working properly if the brake system warning light is on. Driving with the brake system warning light on can lead to a crash. If the light is still on after the vehicle has been pulled off the road and carefully stopped, have the vehicle towed for service.

Electric Parking Brake Light



Metric



English

This light comes on when the parking brake is applied. If the light continues flashing after the parking brake is released, or while driving, there is a problem with the Electric

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Parking Brake system or another system. A message may also display in the Driver Information Center (DIC). See *Brake System Messages* ⇨ *133*.

If the light does not come on, or remains flashing, see your dealer.

Service Electric Parking Brake Light



If this light comes on and stays on, there is a problem with a system on the vehicle that is causing the parking brake system to work at a reduced level. The vehicle can still be driven, but should be taken to a dealer as soon as possible. See *Electric Parking Brake* ⇨ *188*. If a message displays in the Driver Information Center (DIC), see *Brake System Messages* ⇨ *133*.

Antilock Brake System (ABS) Warning Light



This light should come on briefly when the vehicle is in ON/RUN. If it does not come on, have the vehicle serviced by your dealer.

If the ABS warning light stays on longer than a few seconds after the vehicle is in ON/RUN, or comes on and stays on while driving, try resetting the system. To reset the system:

1. While driving, pull over when it is safe to do so.
2. Place the vehicle in P (Park).
3. Turn the vehicle off.
4. Restart the vehicle.

If the ABS warning light remains on after resetting the system or comes on again while driving, the vehicle needs service. If the ABS warning light is on, but the regular brake system warning light is not on, the antilock brakes are not working properly, but the regular brakes are still functioning. Have the vehicle serviced right away. If both brake lights are on, the vehicle does not have antilock brakes, and there is a problem with the regular brakes as well. Have the vehicle towed for service. See *Towing the Vehicle* ⇨ *311*.

Sport Mode Light

SPORT

This light comes on when Sport Mode is selected. See “Sport Mode” in *Driver Selected Operating Modes* ⇨ *181* for more information.

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Mountain Mode Light

MOUNTAIN

This light comes on when Mountain Mode is selected. See “Mountain Mode” in *Driver Selected Operating Modes* ⇨ *181* for more information.

Hold Mode Light

HOLD

This light comes on when Hold Mode is selected. See “Hold Mode” in *Driver Selected Operating Modes* ⇨ *181* for more information.

Lane Keep Assist (LKA) Light



This light is green if LKA is available to assist.

LKA may assist by gently turning the steering wheel if the vehicle approaches a detected lane marking without using the turn signal in that direction. The LKA light will turn amber.

This light is amber and flashes as a Lane Departure Warning (LDW) alert, to indicate that the lane marking has been crossed.

See *Lane Keep Assist (LKA)* ⇨ *213*.

Vehicle Ahead Indicator



If equipped, this indicator will display green when a vehicle is detected ahead and amber when you are following a vehicle ahead much too closely.

See *Forward Collision Alert (FCA) System* ⇨ *208*.

Traction Off Light



This light comes on briefly while starting the engine. If it does not, have the vehicle serviced by your

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dealer. If the system is working normally, the indicator light then turns off.

The traction off light comes on when the Traction Control System (TCS) has been turned off.

This light and the StabiliTrak OFF light come on when StabiliTrak is turned off.

If the TCS is off, wheel spin is not limited. Adjust driving accordingly.

StabiliTrak® OFF Light



This light comes on briefly while starting the engine. If it does not, have the vehicle serviced by your dealer.

This light comes on when the StabiliTrak system is turned off. If StabiliTrak is off, the Traction Control System (TCS) is also off. If StabiliTrak and TCS are off, the system does not assist in controlling the vehicle. Turn on the TCS and the StabiliTrak systems, and the warning light turns off.

See *Traction Control/Electronic Stability Control* ⇨ *192*.

Traction Control System (TCS)/StabiliTrak® Light



This light comes on briefly when the engine is started.

If the light does not come on, have the vehicle serviced by your dealer. If the system is working normally, the indicator light turns off.

If the light is on and not flashing, the TCS and potentially the StabiliTrak system have been disabled. A Driver Information Center (DIC) message may display. Check the DIC messages to determine which feature(s) is no longer functioning and whether the vehicle requires service. See *Ride Control System Messages* ⇨ *138*.

If the light is on and flashing, the TCS and/or the StabiliTrak system is actively working.

See *Traction Control/Electronic Stability Control* ⇨ *192*.

Engine Coolant Temperature Warning Light



The engine coolant temperature warning light comes on briefly when the vehicle is started.

If it does not, have the vehicle serviced by your dealer. If the system is working normally, the indicator light then goes off.

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If the light comes on and stays on while driving, the vehicle may have a problem with the cooling system. Stop and turn off the vehicle to avoid damage to the engine.
A warning chime sounds when this light is on.

See *Engine Overheating* ⇨ *253* for more information.

Tire Pressure Light



For vehicles with the Tire Pressure Monitor System (TPMS), this light comes on briefly when the vehicle is in ON/RUN. It provides information about tire pressures and the TPMS.

When the Light is On Steady

This indicates that one or more of the tires are significantly underinflated.

A message in the Driver Information Center (DIC) may also display. See *Tire Messages* ⇨ *140*. Stop as soon as possible, and inflate the tires to the pressure value shown on the Tire and Loading Information label. See *Tires* ⇨ *271*.

When the Light Flashes First and Then Is On Steady

This indicates that there may be a problem with the TPMS. The light flashes for about one minute and stays on steady until the vehicle is in OFF. This sequence repeats each time the vehicle is in ON/RUN. See *Tire Pressure Monitor System* ⇨ *280*.

Engine Oil Pressure Light

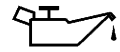
Caution

Lack of proper engine oil maintenance can damage the engine. Driving with the engine oil low can also damage the engine. The repairs would not be covered

(Continued)

Caution (Continued)

by the vehicle warranty. Check the oil level as soon as possible. Add oil if required, but if the oil level is within the operating range and the oil pressure is still low, have the vehicle serviced. Always follow the maintenance schedule for changing engine oil.



The oil pressure light should come on briefly as the vehicle is started. If it does not come on have the vehicle serviced by your dealer.

If the light comes on and stays on, it means that oil is not flowing through the engine properly. The vehicle could be low on oil and might have some other system problem. See your dealer.

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Low Fuel Warning Light



The low fuel warning light comes on briefly when the vehicle is started.

This light also comes on when the fuel level is low. When fuel is added, the light should go off. If it does not, have the vehicle serviced.

Security Light



The security light should come on briefly as the engine is started. If it does not come on, have the vehicle serviced by your dealer. If the system is working normally, the indicator light turns off.

If the light stays on and the engine does not start, there could be a problem with the theft-deterrent system. See *Immobilizer Operation* ⇨ *44*.

Vehicle Ready Light



The vehicle ready light comes on whenever the vehicle is ready to be driven.

High-Beam On Light



This light comes on when the high-beam headlamps are in use.

See *Headlamp High/Low-Beam Changer* ⇨ *151*.

IntelliBeam® Light



This light comes on when the IntelliBeam system, if equipped, is enabled.

See *Exterior Lamp Controls* ⇨ *149*.

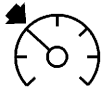
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Lamps On Reminder



This light comes on when the exterior lamps are in use. See *Exterior Lamp Controls* ⇨ *149*.

Cruise Control Light



The cruise control light is white when the cruise control is on and ready, and turns green when the cruise control is set and active.

See *Cruise Control* ⇨ *194*.

Adaptive Cruise Control Light



This light comes on when the Adaptive Cruise Control (if equipped) is active. See *Adaptive Cruise Control* ⇨ *196*.

Door Ajar Light

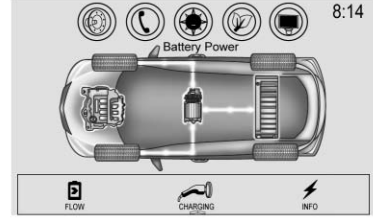


This light comes on when a door is open or not securely latched.

Information Displays

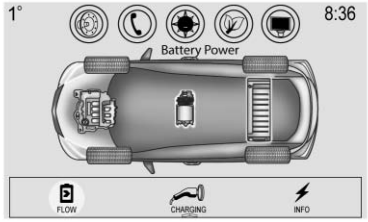
Power Flows

To view the Power Flow screens, touch Energy on the infotainment display and then touch Power Flow at the bottom of the touch screen. The Power Flow screens indicate the current system operating condition. The screens show the energy flow between the engine, electric drive unit, and high voltage battery. These components will be highlighted when they are active.

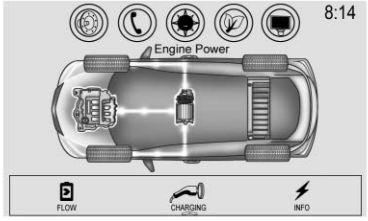


Battery Power - Battery is active with energy flowing to the wheels.

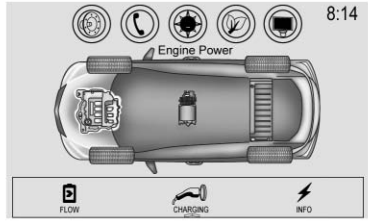
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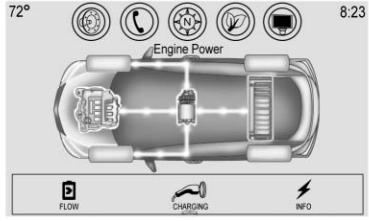
Battery Power - Vehicle is stationary in electric mode and no power is flowing to the wheels.



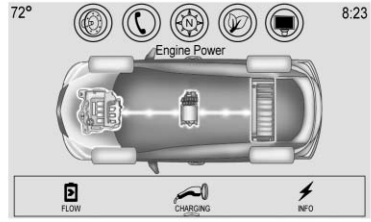
Engine Power - Engine is active with energy flowing to the wheels.



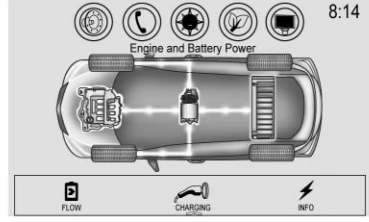
Engine Power - Vehicle is stationary in Extended Range Mode and no power is flowing to the wheels.



Engine Power - Engine is active with energy flowing to the wheels. Engine is charging the battery.

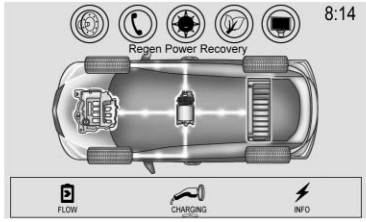


Engine Power - Vehicle is stationary and no power is flowing to the wheels. Engine is charging the battery.

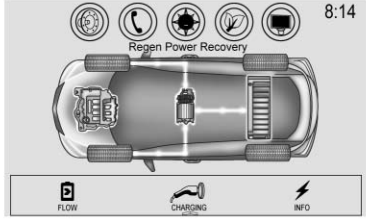


Engine and Battery Power - Both the engine and battery are active with energy flowing to the wheels.

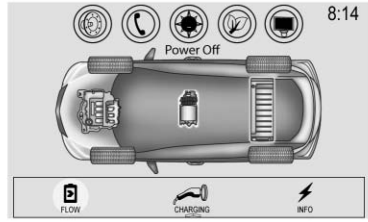
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Engine and Regen Power Recovery - Engine is active. Power from the wheels returns to the battery during regenerative braking or coasting.



Regen Power Recovery - Power from the wheels returns to the battery during regenerative braking or coasting.



Power Off - No power is flowing to the wheels.

Programmable Charging

Important Information About Portable Electric Vehicle Charging

- Charging an electric vehicle can stress a building's electrical system more than a typical household appliance.
- Before you plug into any electrical outlet, have a qualified electrician inspect and verify the electrical system (electrical outlet, wiring, junctions, and protection devices) for heavy-duty service at a 12 amp continuous load.
- Electrical outlets may wear out with normal usage or be damaged over time, making them unsuitable for electric vehicle charging.
- Check the electrical outlet/plug while charging and discontinue use if the electrical outlet/plug is hot, then have the electrical outlet serviced by a qualified electrician.
- When outdoors, plug into an electrical outlet that is weatherproof while in use.
- Mount the charging cord to reduce strain on the electrical outlet/plug.

⚠ Danger

Improper use of portable electric vehicle charge cords may cause a fire, electrical shock, or burns, and may result in damage to property, serious injury, or death.

(Continued)

DEP
DEALER E-PROCESS

Danger (Continued)

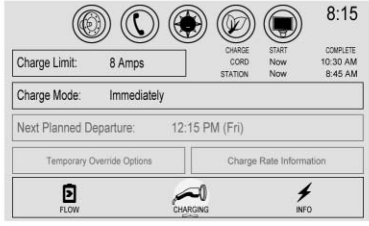
- Do not use extension cords, multi-outlet power strips, splitters, grounding adaptors, surge protectors, or similar devices.
- Do not use an electrical outlet that is worn or damaged, or will not hold the plug firmly in place.
- Do not use an electrical outlet that is not properly grounded.
- Do not use an electrical outlet that is on a circuit with other electrical loads.

Programmable Charge Modes

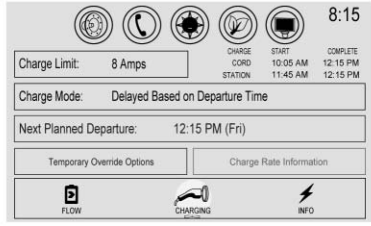
This vehicle has three programmable charge modes. To view the current charge mode status in the center stack display, touch Energy in the infotainment display and then touch Charging at the bottom of the touch screen.

The Charge Start and Charge Complete time estimates are also displayed on the screen. These estimates are most accurate when the vehicle is plugged in and in moderate temperature conditions.

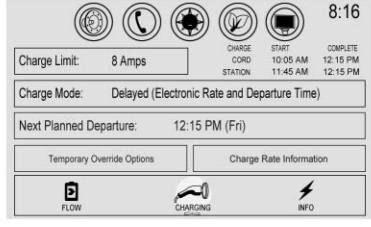
Charge Mode Status



Immediately : The vehicle starts charging as soon as it is connected to an electrical outlet. See *Plug-In Charging* ⇨ *215*.



Delayed Based on Departure Time : The vehicle estimates the charging start time considering the programmed departure time for the current day of the week. Charging begins at the start time and is complete by the departure time only if sufficient time is allowed after the charge cord is plugged in.



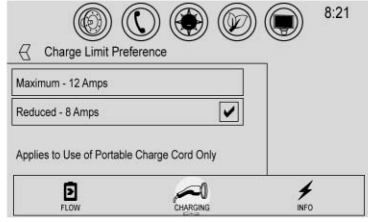
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Delayed (Electric Rate and Departure Time) : The vehicle estimates the charging start time based on the utility rate schedule, utility rate preference, and the programmed departure time for the current day of the week. The vehicle will charge during the least expensive rate periods to achieve a full battery charge by the departure time. Electrical rate information from the utility company for the charging location is required for this mode.

Also, if the selected electric rate settings result in a very long charge completion time, the vehicle will start charging immediately upon plug-in. For example, if the electric rate table is set up with all “Peak” rates and the rate preference is to charge during “Off-Peak” rates only, then the vehicle will start charging immediately upon plug-in.

Charge Limit Preference Selection

The Charge Limit Preference setting allows the customer to select their vehicle’s charge level so it matches the capability of their charging location. If the vehicle consistently stops charging after plugging in, or if a circuit breaker continues to trip, reducing to a lower Charge Limit Preference may resolve the issue.



The Charge Limit Preference should be configured to match the electrical current rating for the electrical outlet that the charge cord is connected to. The Charge Limit Preference settings are:

- Maximum: Limits AC current to 12 amps
- Reduced: Limits AC current to 8 amps

Exact current levels may vary from the values shown in this manual. Check the vehicle for the current available levels.

The Charge Limit Preference setting resets to the Reduced 8 amp setting each time the vehicle is driven. Location Based Charging can be enabled to maintain Maximum 12 amp setting at a specified Home location. See “Location Based Charging” later in this section.

The Charge Limit Preference setting can be changed at any time while the center stack display is operable.

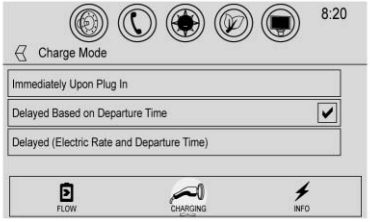
⚠ Warning

Using a charge level that exceeds the electrical circuit or electrical outlet capacity may start a fire or damage the electrical circuit. Use the lowest charge level until a qualified electrician inspects the electrical circuit capacity. Use the lowest charge level if the electrical circuit or electrical outlet capacity is not known.

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Charge Mode Selection

From the main charging screen, touch Charge Mode.

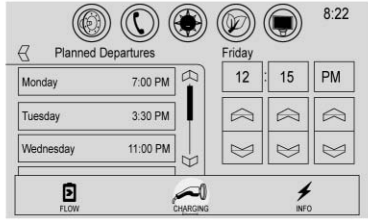


Select one option:

- Immediately Upon Plug In
- Delayed Based on Departure Time
- Delayed (Electric Rate and Departure Time)

Departure Time Entry

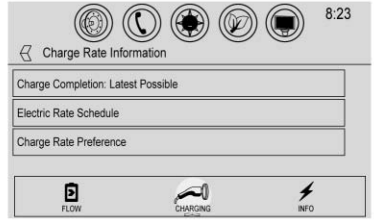
From the main charging screen, touch Next Planned Departure.



1. Touch the day to change.
2. Touch ∧ or ∨ to change the hours and minutes.
3. Touch ∧ or ∨ to change AM or PM.
4. Touch < to store changes and return to the previous screen.

Charge Rate Information

From the Delayed Charge Mode Status screen, touch Charge Rate Information.



Select one of the following:

- Charge Completion: Earliest Possible/Latest Possible.
- Electric Rate Schedule.
- Charge Rate Preference.

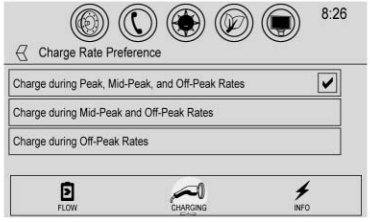
Earliest or Latest Completion Time

If the vehicle calculates that the cost would be the same for various charge modes based on the charge rates selected, select to finish the charge at the earliest possible time or the latest possible time. Use the Earliest setting to charge as soon as possible if there is a planned departure prior to the scheduled departure time. Use the Latest setting to optimize energy usage.

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Charge Rate Preference Selection

From the main charging screen, touch Charge Rate Information and then touch Charge Rate Preference.



Touch one of the following options to select the Charge Rate Preference:

- Charge during Peak, Mid-Peak, and Off-Peak Rates: The vehicle can charge during any rate period to satisfy the next planned departure time. However, it will select when to charge to minimize the total cost of the charge.
- Charge during Mid-Peak and Off-Peak Rates: The vehicle will charge during Off-Peak and/or Mid-Peak rate periods only and will select when to charge to minimize the total cost of the charge.
- Charge during Off-Peak Rates: The vehicle will only charge during Off-Peak rate periods.

Charging begins at the start time and is complete by the departure time only if sufficient time is allowed after the charge cord is plugged in. For example, if the vehicle is plugged in for only one hour prior to the departure time, and the battery is completely discharged, the vehicle will not be fully charged by the departure time regardless of the rate selection.

Also, if the selected electric rate settings result in a very long charge completion time, the vehicle will start charging immediately upon plug-in. For example, if the electric rate table is set up with all Peak rates and the rate preference is to charge during Off-Peak rates only, then the vehicle will start charging immediately upon plug-in.

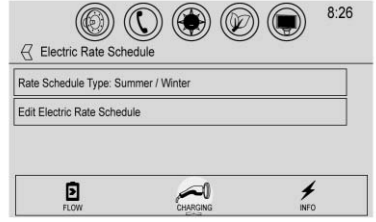
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Electric Rate Plan Selection

Electric rates, or cost per unit, may vary based on time, weekday/weekend, and season. During the day when the demand for electricity is high, the rates are usually higher and are called Peak rates. At night when the demand for electricity is low, the rates are usually lower and are called Off-Peak rates. In some areas, a Mid-Peak rate is offered.

Contact the utility company to obtain the rate schedule for your area. The summer and winter start dates must be established to use a summer/winter schedule.

From the Charge Rate Information screen, touch Electric Rate Schedule.



To edit the Summer/Winter Schedule:

1. Select Summer/Winter for the Rate Schedule Type.
2. Touch Edit Electric Rate Schedule.

To edit the Yearly Schedule:

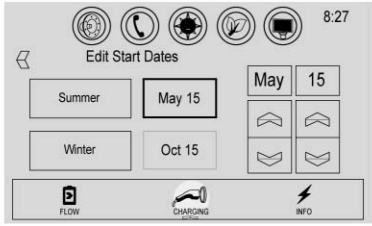
1. Select Yearly for the Rate Schedule Type.
2. Touch Edit Electric Rate Schedule.

Summer/Winter Schedule Start Date Entering

To toggle between a yearly schedule or a summer/winter schedule, touch Rate Schedule Type.

To edit the Rate Schedule Season Start Dates:

1. Touch Edit Electric Rate Schedule on the Electric Rate Schedule Screen.

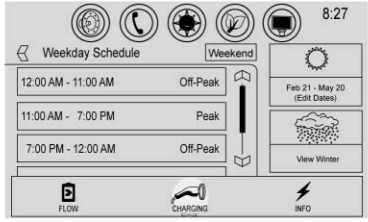


2. Touch the summer icon.
3. Touch ∧ or ∨ to set the month and day for the start of summer.
4. Touch the winter icon.
5. Touch ∧ or ∨ to set the month and day for the start of winter.
6. Touch < to save changes.

Electric Rate Schedule Editing

From the Charge Rate Information Screen touch Electric Rate Schedule. Select the season you wish to edit if summer/winter rates are selected. If yearly rate schedule is selected no summer/winter icon will appear.

1. Touch Weekday or Weekend Rates



2. Touch the rate time window to be changed.
 - Weekdays are Monday through Friday and use the same rate schedule.
 - Weekends are Saturday and Sunday and use the same rate schedule.

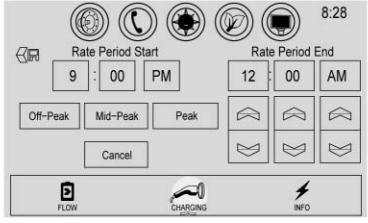
Both weekday and weekend schedules must be set. The rate schedule only applies for a 24-hour period, starting at 12:00 AM and ending at 12:00 AM. There can be five rate changes for each day; not all must be used.

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The finish times must be consecutive. If a finish time does not follow a start time, the error message displays “An invalid entry was found in the data entered. Please re-enter data.”

Electric Rate Finish Time Editing

From the Edit (Summer, Winter, or Yearly) Electric Rate Schedule screen, touch the row to change.



1. Touch ∧ or ∨ to adjust the time.
2. Touch Off-Peak, Mid-Peak, or Peak to select the electric rate.
3. Touch < to store changes.

Only the finish time can be edited. The start time is automatically populated in the rate table.

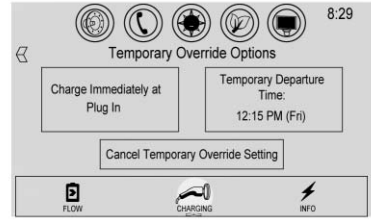
Temporary Charge Mode Override and Cancel

Programmed Delayed Charge Modes can be temporarily overridden to an Immediate Charge Mode for one charge cycle. Also, the next planned departure time can be temporarily overridden for one charge cycle. In addition to the in-vehicle overrides via the center stack, there are other ways to temporarily override a Delayed Charge Mode. See *Plug-In Charging* ⇨ *215*.

Temporary Override of a Delayed Charge Mode

To temporarily override a Delayed Charge Mode to Immediate Charge Mode from inside the vehicle:

1. Touch Temporary Override Options on the main charging screen.



2. Touch Charge Immediately at Plug-In to temporarily override to an Immediate Charge Mode.

The Temporary Charge Mode Status screen will automatically display the revised charge complete time.



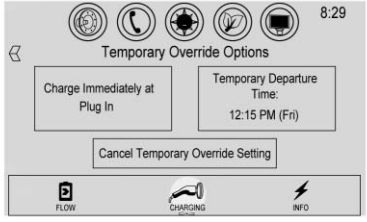
To cancel the temporary override to Immediate, touch the X next to the charge mode on the main charging screen.

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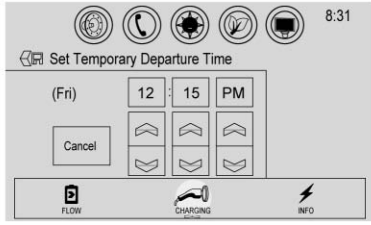
Temporary Override of the Next Planned Departure Time

To temporarily override the Next Planned Departure Time from inside the vehicle:

1. Touch Temporary Override Options on the main charging screen.

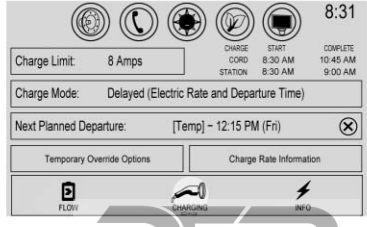


2. Touch Temporary Departure Time.



3. Touch ∧ or ∨ to change the Next Departure Time.
4. Touch < to confirm a temporary override of the Next Planned Departure Time.

The main charging screen will automatically display the revised departure time and charge complete time.



The Temporary Departure Time can only be updated for the same day as the original Next Planned Departure Time. Also, the vehicle will not accept a Temporary Departure Time that is before the present time of day.

To cancel the temporary override of the Next Planned Departure Time:

- From the Temporary Override Options screen, touch Cancel Temporary Override Setting.
- From the main charging screen, touch the X on the right side of the respective override text. When you override to an immediate charge mode, the X will be on the far right side of Charge Mode. When you override the departure time of either delayed charge mode, the X will be on the far right side of Next Planned Departure.

Location Based Charging

This feature allows charging settings to be customized when the vehicle is at home or away from home. The charge mode and charge

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level preference will update based on vehicle location. See “Charge Limit Preference Selection” earlier in this section. The charging customization settings will be the saved home profile settings at home and Charge Immediate when away from home.

Dashes display on the screen when GPS is unavailable.

Using Location Based Charging

To use location based charging, a home location must first be stored. To store a home location:

1. From the Home screen, touch Settings.
2. Touch Vehicle.
3. Touch Energy.
4. Touch Location Based Charging.
5. Touch Set Home Location.
6. A pop-up will confirm the setting and the compass will be lit. In addition, the Set Home Location will change to Update Home Location.

To turn location based charging on or off:

1. Follow Steps 1–4 under “Using Location Based Charging” to get to the Location Based Charging screen.
2. Touch ON or OFF to turn the system on or off.

Updating Home Location

To update the home location:

1. Follow Steps 1–4 under “Using Location Based Charging” to get to the Location Based Charging screen.
2. Choose Update Home Location.
3. Choose:

Update : Use when the vehicle is parked in a new location.

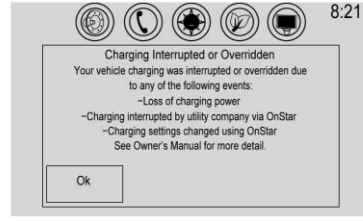
Cancel : Use to cancel this operation and make no changes.

Remove : Use to remove the stored home location from the vehicle. This will turn the feature off because there will be no home location stored.

Expiration

The charge level preference at the home location is stored for up to 90 days. After 90 days, a notification will display on the screen and the charge level preference will need to be reset for the next 90 days.

Charging Interrupted or Overridden Pop-Up



The Charging Interrupted or Overridden message will appear if any of the following conditions occur:

- The charging settings have been modified via OnStar through the website or the Mobile App. For example, the Departure Time Tables, the Rate Tables, or the

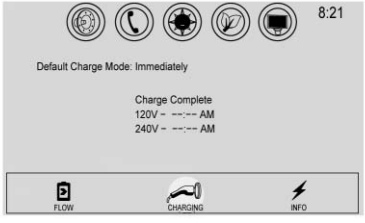
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Charge Mode were updated using the customer website (available in select regions).

- There was an unintended loss of AC power during the plug-in charge event. For example, there was a power outage or the charge cord was unplugged from the wall.
- The charge process was interrupted by the utility company via OnStar as authorized by the vehicle owner (available in select regions).

See *Utility Interruption of Charging* ⇨ *228*.

Programmable Charging Disabled

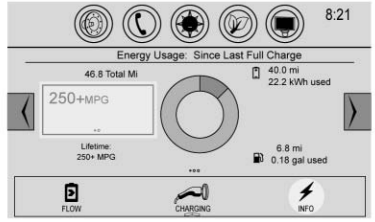


When the Programmable Charging system is disabled, the main charging screen will display "- -:- -" for the Charge Complete Time. The Programmable Charging system will be disabled if the Charge Complete Time cannot be confidently estimated. If the Programmable Charging system is consistently disabled, see your dealer.

Energy Information

To view Energy Usage, Energy Usage Score, and Energy Details, touch Energy on the infotainment display, touch INFO, then touch ⟪ or ⟫. To reset the values, the high voltage battery needs to be fully recharged.

Energy Usage



The Energy Usage screen displays information for the total of all drive cycles since the last time the high voltage battery was fully charged. This includes:

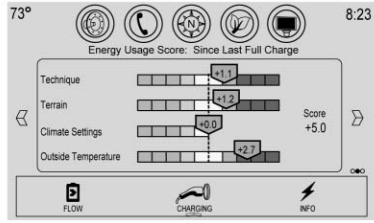
- Distance traveled in Electric Mode
- Distance traveled in Extended Range Mode
- Total distance traveled
- Electric energy used from the battery
- Total fuel used
- Average fuel economy

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The electric equivalent to fuel economy is MPGe. Touch MPG on the screen to view. When dashes are displayed, the maximum limits to some values have been reached.

The circle graph displays the percentage of distance traveled using Electric Mode versus Extended Range Mode. The Lifetime fuel economy is a total over the life of the vehicle and can only be reset by the dealer. The Energy Usage information will also appear automatically on power off when Retained Accessory Power is active. This pop-up can be disabled. See “Energy Summary Pop-up” under *Vehicle Personalization* ⇨ *141*.

Energy Usage Score



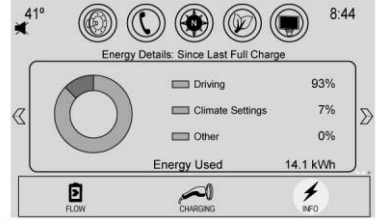
The Energy Usage Score screen provides an estimate of the factors that influence energy usage since the last full charge of the high voltage battery. A positive score is desired to reach the vehicle’s electric and fuel economy rating.

- **Technique** includes accelerating and braking.
- **Terrain** includes road conditions, such as hills, rain, and snow and may be affected by wind and tire pressure.
- **Climate Settings** includes how the heating and air conditioning are used.
- **Outside Temperature** includes the effect that hot or cold air has on vehicle aerodynamics.
- **Score** is the sum of the individual scores.

The individual scores provide an understanding of how electric and fuel economy are different from day-to-day, even when traveling the same route.

All values are reset after a complete charge and may not be stable until approximately 10 miles have been driven.

Energy Details



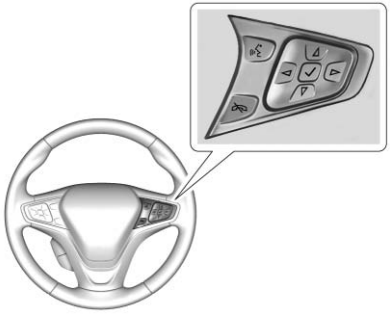
The Energy Details screen displays how energy is being used since the last time the high voltage battery was fully charged. It includes

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Driving and Accessories, Climate Settings, and Battery Conditioning. The circle graph displays these percentages. The total energy used displays at the bottom of the screen.

Driver Information Center (DIC)

The DIC is displayed in the instrument cluster. It shows the status of many vehicle systems.



△ **or** ▽ **:** Press to go to the previous or next selection.

◁ **or** ▷ **:** Press to move between the interactive display zones in the cluster. Press ◁ to go back to the previous menu.

✓ **:** Press to open a menu or select a menu item. Press and hold to reset values on certain screens.

DIC Information Display Options

The info displays on the DIC can be turned on or off through the Settings menu.

1. Press ✓ while viewing the Settings page in one of the interactive display zones on the cluster.
2. Scroll to Info Pages and press ✓.
3. Press △ or ▽ to move through the list of possible info displays.
4. Press ✓ while an item is highlighted to select or deselect that item. When an item is selected, a checkmark will appear next to it.

DIC Information Displays

The following is the list of all possible DIC information displays. Some of the information displays may not be available for your particular vehicle.

Trip A or Trip B and Average Fuel Economy : The Trip display shows the current distance traveled, in either kilometers (km) or miles (mi), since the trip odometer was last reset. The trip odometer can be reset by pressing and holding ✓ while this display is active.

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The Average Fuel Economy display shows the approximate average liters per 100 kilometers (L/100 km) or miles per gallon (mpg). This number is calculated based on the number of L/100 km (mpg) recorded since the last time this menu item was reset. This number reflects only the approximate average fuel economy that the vehicle has right now, and will change as driving conditions change. The Average Fuel Economy can be reset along with the trip odometer by pressing and holding ✓ while this display is active.

Compass and Speed : Shows the direction the vehicle is driving and the vehicle speed in either kilometers per hour (km/h) or miles per hour (mph).

Total Range : Shows the remaining distance the vehicle can be driven combining the electric range and fuel range.

Oil Life : The Oil Life display shows an estimate of the oil's remaining useful life. If REMAINING OIL LIFE 99% is displayed, that means 99% of the current oil life remains.

When the remaining oil life is low, the CHANGE ENGINE OIL SOON message will appear on the display. See *Engine Oil Messages* ⇨ *134*. The oil should be changed as soon as possible. See *Engine Oil* ⇨ *243*. In addition to the engine oil life system monitoring the oil life, additional maintenance is recommended. See *Maintenance Schedule* ⇨ *326*.

Remember, the Oil Life display must be reset after each oil change. It will not reset itself. Also, be careful not to reset the Oil Life display accidentally at any time other than when the oil has just been changed. It cannot be reset accurately until the next oil change. To reset the engine oil life system, press and hold ✓ for several seconds while the Oil Life display is active. See *Engine Oil Life System* ⇨ *245*.

Tire Pressure : Shows the approximate pressures of all four tires. Tire pressure is displayed in either kilopascal (kPa) or in pounds per square inch (psi). If the pressure is low, the value for that tire is shown in amber. See *Tire Pressure Monitor System* ⇨ *280* and *Tire Pressure Monitor Operation* ⇨ *281*.

Average Speed : Shows the average speed of the vehicle in kilometers per hour (km/h) or miles per hour (mph). This average is calculated based on the various vehicle speeds recorded since the last reset of this value. The average speed can be reset by pressing and holding ✓ while this display is active.

Timer : This display can be used as a timer. To start the timer, press ✓ while this display is active. The display will show the amount of time that has passed since the timer was last reset. To stop the timer, press ✓ briefly while this display is active and the timer is running.

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To reset the timer to zero, press and hold ✓ while this display is active.

Speed Limit : Shows the current speed limit. The information for this page comes from a roadway database.

Follow Distance Indicator : The current follow time to the vehicle ahead is displayed as a time value on this page.

Coolant Temperature : Shows the engine coolant temperature in either degrees Celsius (°C) or degrees Fahrenheit (°F).

Blank Page : The Blank Page display allows for no information to be displayed in the cluster info display areas.

Vehicle Messages

Messages displayed on the DIC indicate the status of the vehicle or some action that may be needed to correct a condition. Multiple messages may appear one after another.

The messages that do not require immediate action can be acknowledged and cleared by pressing ✓.

The messages that require immediate action cannot be cleared until that action is performed.

All messages should be taken seriously; clearing the message does not correct the problem.

The following are the possible messages and some information about them.

Battery and Charging Messages

BATTERY SAVER ACTIVE

This message displays when the vehicle has detected that the 12-volt battery voltage has dropped and vehicle features are being disabled. The 12-volt battery saver system starts reducing certain features trying to save the charge of the 12-volt battery. Turn off unnecessary features to allow the battery to recharge.

CHARGE CORD CONNECTED

This message displays when the charge cord is connected to the vehicle. The vehicle cannot be shifted out of P (Park) with the charge cord connected.

CHARGE DOOR OPEN

This message displays when the charge door is open and the vehicle is shifted out of P (Park). The charge door should be kept fully closed when the vehicle is not charging.

DEP DEALER E-PROCESS

LOW BATTERY

This message displays when the 12-volt battery voltage is low. See *Battery - North America ⇨ 256*.

SERVICE BATTERY CHARGING SYSTEM

This message displays when there is a fault in the 12-volt battery charging system. See your dealer for service.

SERVICE HIGH VOLTAGE CHARGING SYSTEM

This message displays when there is a problem with the high voltage charging system. See your dealer for service.

Brake System Messages

BRAKE FLUID LOW

This message displays when the brake fluid level is low. See *Brake Fluid ⇨ 254*.

RELEASE PARKING BRAKE

This message displays if the Electric Parking Brake is on while the vehicle is in motion. Release it before attempting to drive. See *Electric Parking Brake ⇨ 188*.

SERVICE BRAKE ASSIST

This message displays when there is a problem with the brake boost system. When this message displays, the brake pedal may be harder to push and the stopping distance may be longer. See your dealer for service.

SERVICE PARKING BRAKE

This message displays when there is a problem with the Electric Parking Brake. See your dealer for service.

STEP ON BRAKE TO RELEASE PARK BRAKE

This message displays when attempting to release the Electric Parking Brake without the brake pedal applied. See *Electric Parking Brake ⇨ 188*.

Compass Messages

Dashes may be displayed if the vehicle temporarily loses communication with the Global Positioning System (GPS).

Cruise Control Messages

CRUISE SET TO XXX

This message displays when the cruise control is set and shows the speed it was set to. See *Cruise Control ⇨ 194*.

Door Ajar Messages

DOOR OPEN

A door open symbol will be displayed on the DIC showing which door is open. If the vehicle has been shifted out of P (Park), a DOOR OPEN message will also be displayed. The DOOR OPEN message may also be displayed if the vehicle starts to move. Close the door completely.

DEP
DEALER E-PROCESS

HOOD OPEN

This message will display along with a hood open symbol when the hood is open. Close the hood completely.

TRUNK OPEN

This message will display along with a symbol when the hatch is open. Close the hatch completely.

Electric Drive Unit Messages

SHIFT FROM NEUTRAL

This message displays when the vehicle should be shifted from N (Neutral). If the vehicle remains in electric neutral at low vehicle speeds, the vehicle will not be able to charge the high voltage battery.

SHIFT TO PARK

This message displays when the vehicle should be shifted to P (Park). This may appear when attempting to turn off the vehicle when it is not in P (Park).

Engine Cooling System Messages

ENGINE OVERHEATED — REDUCE SPEED

This message displays when the engine coolant temperature or engine oil is too hot. Reduce speed and allow the vehicle to cool down.

ENGINE OVERHEATED — TURN VEHICLE OFF

This message displays and a continuous chime sounds if the engine cooling system reaches unsafe temperatures for operation. Stop and turn off the vehicle as soon as it is safe to do so to avoid severe damage. This message clears when the engine has cooled to a safe operating temperature.

ENGINE RUNNING DUE TO TEMPERATURE

This message displays when the high voltage battery is charged but the engine has to come on because of the outside temperature or high voltage battery temperature.

Engine Oil Messages

CHANGE ENGINE OIL SOON

This message displays when the engine oil needs to be changed. After changing the engine oil, the Engine Oil Life System must be reset. See *Engine Oil Life System* ⇨ *245* and *Driver Information Center (DIC)* ⇨ *130* for information on how to reset the system. See *Engine Oil* ⇨ *243* and *Maintenance Schedule* ⇨ *326*.

OIL PRESSURE LOW — TURN VEHICLE OFF

This message displays if low oil pressure levels occur. Stop the vehicle as soon as safely possible and do not operate it until the cause of the low oil pressure has been corrected. Check the oil as soon as possible and see your dealer for service.

DEP DEALER E-PROCESS

Fuel System Messages

CLOSE FUEL DOOR

This message displays when the fuel door is open and the vehicle is moving.

ENGINE NOT AVAILABLE ADD FUEL

This message displays when the engine is not available due to running out of fuel. The vehicle can continue to be driven in Electric Mode until the battery is depleted, but will have reduced acceleration. When this message is displayed, refuel the vehicle. See *Out of Fuel/ Engine Unavailable* ⇨ *183*.

FUEL LEVEL LOW

This message displays when the vehicle is low on fuel. Refuel as soon as possible.

READY TO REFUEL

This message displays when the fuel system is depressurized and the vehicle can be refueled.

TIGHTEN GAS CAP

This message displays when the fuel cap is not on tight. Tighten the fuel cap.

WAIT TO REFUEL

This message displays when the fuel system is pressurized. You must wait to refuel the vehicle until this message goes off.

Key and Lock Messages

NO REMOTE KEY WAS DETECTED PLACE KEY IN TRANSMITTER POCKET THEN START YOUR VEHICLE

This message displays when trying to start the vehicle if an RKE transmitter is not detected. The transmitter battery may be weak. See “Starting the Vehicle with a Low Transmitter Battery” under *Remote Keyless Entry (RKE) System Operation* ⇨ *30*.

DEP
DEALER E-PROCESS

NO REMOTE DETECTED

This message displays when the transmitter battery may be weak. See “Starting the Vehicle with a Low Transmitter Battery” under *Remote Keyless Entry (RKE) System Operation* ⇨ *30*.

NO REMOTE DETECTED PRESS BRAKE TO RESTART

This message displays when attempting to turn off the vehicle and the RKE transmitter is no longer detected. Restarting is allowed without the RKE transmitter for five minutes. Press the brake pedal and ENGINE START/STOP to restart the vehicle.

NUMBER OF KEYS PROGRAMMED

This message displays when programming new keys to the vehicle.

REMOTE LEFT IN VEHICLE

This message displays when leaving the vehicle with the RKE transmitter still inside.

REPLACE BATTERY IN REMOTE KEY

This message displays when the battery in the RKE transmitter needs to be replaced.

Lamp Messages

AUTOMATIC LIGHT CONTROL ON/OFF

A message will display when the automatic light control has been turned on or off.

CHECK LAMP or LAMP FAILURE

Depending on the lamp, one of these messages may display. See *Bulb Replacement* ⇨ *260*.

TURN SIGNAL ON

This message displays if the turn signal has been left on. Turn off the turn signal.

Object Detection System Messages

FORWARD COLLISION SYSTEM OFF

This message displays when Forward Automatic Braking (FAB) has been turned off or set to Alert. See *Forward Automatic Braking (FAB)* ⇨ *210*.

FORWARD COLLISION SYSTEM UNAVAILABLE

This message displays when Forward Automatic Braking (FAB) has been unavailable for some time. FAB does not need service. This message can display under the following conditions:

- The front of the vehicle or windshield is not clean. Keep these areas clean and free of mud, dirt, snow, ice, and slush. For cleaning instructions, see *Exterior Care* ⇨ *314*.
- Heavy rain or snow is interfering with the object detection performance.

This message may also be displayed if there is a problem with the StabiliTrak system. See *Traction Control/Electronic Stability Control* ⇨ *192*.

FORWARD COLLISION ALERT OFF

This message displays when the Forward Collision Alert has been turned off.

FRONT CAMERA BLOCKED CLEAN WINDSHIELD

This message displays when the camera is blocked. Cleaning the outside of the windshield behind the rearview mirror may correct the issue. The Lane Keep Assist (LKA) and the Lane Departure Warning (LDW) system will not operate. Forward Collision Alert (FCA) and Forward Automatic Braking (FAB) may not work or may not work as well.

DEP
DEALER E-PROCESS

LANE CHANGE ALERT OFF

This message indicates that the driver has turned the Side Blind Zone Alert (SBZA) and Lane Change Alert (LCA) systems off.

LANE KEEPING ASSIST UNAVAILABLE

This message displays when the Lane Keep Assist (LKA) and Lane Departure Warning (LDW) system is temporarily unavailable. The LKA system does not need service.

This message could be due to the camera being blocked. Clean the outside of the windshield behind the rearview mirror.

PARK ASSIST OFF

This message displays when the Parking Assist system has been turned off or when there is a temporary condition causing the system to be disabled.

SERVICE FORWARD COLLISION SYSTEM

If this message displays, see your dealer for service . Forward Collision Alert (FCA) and/or the Forward Automatic Braking (FAB) System may not work. Do not use these systems until the vehicle has been repaired.

SERVICE FRONT CAMERA

If this message remains on after continued driving, see your dealer for service. Do not use the Lane Keep Assist (LKA), Lane Departure Warning (LDW), Forward Automatic Braking (FAB), and Forward Collision Alert (FCA) features.

SERVICE PARK ASSIST

This message displays if there is a problem with the Parking Assist system. Do not use this system to help you park. See your dealer for service.

SERVICE SIDE DETECTION SYSTEM

If this message remains on after continued driving, the vehicle needs service. Side Blind Zone Alert (SBZA), Lane Change Alert (LCA), and Rear Cross Traffic Alert (RCTA) features will not work. See your dealer for service.

SIDE DETECTION SYSTEM UNAVAILABLE

This message indicates that Side Blind Zone Alert (SBZA), Lane Change Alert (LCA), and Rear Cross Traffic Alert (RCTA) are disabled either because the sensor is blocked and cannot detect vehicles in the blind zone, or the vehicle is passing through an open area, such as the desert, where there is insufficient data for operation. This message may also activate during heavy rain or due to road spray. The vehicle does not need service. For cleaning, see "Washing the Vehicle" under *Exterior Care* ⇨ *314*.

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DEALER E-PROCESS

Propulsion Power Messages

PROPULSION POWER IS REDUCED

This message displays when the propulsion power is reduced and can affect the ability to accelerate. If this message is on, but there is no reduction in performance, proceed to your destination. The performance may be reduced the next time the vehicle is driven. The vehicle may be driven at a reduced speed while this message is on, but maximum acceleration and speed may be reduced. If this message stays on when the malfunction indicator lamp is on, the vehicle should be taken to your dealer for service as soon as possible.

This message can display when the vehicle is parked during extreme cold conditions without plugging-in. While driving the vehicle with this message displayed, the vehicle speed may be reduced until the high voltage battery is conditioned.

This message can display when driving in mountainous terrain without using Mountain Mode or by not entering Mountain Mode soon enough to build a sufficient battery charge reserve before climbing steep grades. This is normal operation to protect the high voltage battery. Only if both the PROPULSION POWER IS REDUCED message and the malfunction indicator lamp are on should the vehicle be taken to the dealer for service.

While climbing the grade with this message displayed, the vehicle speed may be reduced until the engine can recover the battery state of charge to a normal level. See “Mountain Mode” under *Driver Selected Operating Modes* ⇨ *181*.

Ride Control System Messages

SERVICE STABILITRAK

This message displays when there is a problem detected with the StabiliTrak system. The vehicle is safe to drive, but the StabiliTrak system is not operational. See *Traction Control/Electronic Stability Control* ⇨ *192* for information on resetting the system.

SERVICE TRACTION CONTROL

This message displays when there is a problem detected with the Traction Control System (TCS). The vehicle is safe to drive, but the TCS is not operational. See *Traction Control/Electronic Stability Control* ⇨ *192* for information on resetting the system.

STABILITRAK OFF

This message displays when StabiliTrak is turned off. Adjust your driving accordingly.

TRACTION CONTROL OFF

This message displays when the Traction Control System (TCS) is turned off. Adjust your driving accordingly.

DEP DEALER E-PROCESS

TRACTION CONTROL ON

This message displays when the Traction Control System (TCS) is turned on.

Airbag System Messages

SERVICE AIRBAG

This message displays if there is a problem with the airbag system. See your dealer for service.

Security Messages

SERVICE THEFT ALARM

This message displays if there is a problem with the alarm. See your dealer for service.

SERVICE THEFT DETERRENT SYSTEM

This message displays if there is a problem with the theft-deterrent system. See your dealer for service.

Service Vehicle Messages

ENGINE MAINTENANCE XXX% COMPLETE

This message displays when the Engine Maintenance Mode is running. See “Engine Maintenance Mode (EMM)” under *Maintenance Modes* ⇨ *183*.

ENGINE NOT AVAILABLE SERVICE SOON

This message displays when the engine is not available due to a malfunction that will not allow the engine to start. The vehicle can continue to be driven in Electric Mode until the battery is depleted, but will have reduced acceleration. When this message is displayed, the vehicle should be taken to your dealer for service as soon as possible. See *Out of Fuel/Engine Unavailable* ⇨ *183*.

SERVICE AC SYSTEM

This message displays if there is a problem with the air conditioning system. See your dealer for service.

SERVICE HEATER SOON

This message displays if there is a problem with the heater system. See your dealer for service.

SERVICE POWER STEERING

This message displays and a chime may sound when there may be a problem with the power steering system. If this message displays and a reduction in steering performance or loss of power steering assistance is noticed, see your dealer for service.

SERVICE VEHICLE SOON

This message displays if there is a problem with the vehicle. See your dealer for service. Depending on the severity of a crash, this message may come on along with the airbag readiness light.

DEP DEALER E-PROCESS

Starting the Vehicle Messages

PRESS BRAKE TO START VEHICLE

This message displays when attempting to start the vehicle without first pressing the brake pedal.

PRESS BUTTON AGAIN TO TURN ENGINE OFF

This message displays as a reminder to press POWER ⏻ to turn the vehicle off when an attempt is made to turn off the vehicle while it is in motion.

SERVICE KEYLESS START SYSTEM

This message is displayed if there is a problem with the pushbutton start system. See your dealer for service.

Tire Messages

SERVICE TIRE MONITOR SYSTEM

This message displays if there is a problem with the Tire Pressure Monitor System (TPMS). See *Tire Pressure Monitor Operation* ⇨ *281*.

TIRE LEARNING ACTIVE

This message displays when the system is learning new tires. See *Tire Pressure Monitor Operation* ⇨ *281*.

TIRE PRESSURE LOW ADD AIR TO TIRE

This message displays when the pressure in one or more of the tires is low.

This message also displays LEFT FRONT, RIGHT FRONT, LEFT REAR, or RIGHT REAR to indicate the location of the low tire.

The low tire pressure warning light will also come on. See *Tire Pressure Light* ⇨ *115*.

If a tire pressure message appears on the DIC, stop as soon as possible. Inflate the tires by adding air until the tire pressure is equal to the values shown on the Tire and Loading Information label. See *Tires* ⇨ *271*, *Vehicle Load Limits* ⇨ *171*, and *Tire Pressure* ⇨ *278*.

More than one tire pressure message can appear at a time. The DIC also shows the tire pressure values. See *Driver Information Center (DIC)* ⇨ *130*.

Vehicle Reminder Messages

ICE POSSIBLE DRIVE WITH CARE

This message is displayed when ice conditions are possible.

Vehicle Speed Messages

SPEED LIMITED TO XXX

This message displays when the vehicle speed is limited.

DEP DEALER E-PROCESS

Vehicle Personalization

Use the audio system controls to access the personalization menus for customizing vehicle features.

The following are all possible personalization features. Depending on the vehicle, some may not be available.

Manual Radio Controls

MENU : Press the center of the knob to enter menus and select menu items. Turn the knob to scroll through the menus.

◁ **BACK :** Press to return to the previous menu or exit.

Touchscreen Controls

1. Touch the desired feature to display a list of available options.
2. Touch to select the desired feature setting.
3. Press ◁ BACK on the faceplate or touch ⬅ to return to the previous menu or exit.

Personalization Menus

The following list of menu items may be available:

- Time and Date
- Language (Language)
- Teen Driver
- Valet Mode
- Radio
- Vehicle
- Bluetooth
- Apple CarPlay
- Android Auto
- USB Auto Launch
- Voice
- Display
- Rear Camera
- Return to Factory Settings
- Software Information

Each menu is detailed in the following information.

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Time and Date

Manually set the time and date. See *Clock* ⇨ *98*.

Language (Language)

Select Language, then select from the available language(s).

Teen Driver

Select and the following may display:

- View Report Card
- Manage Settings
- Change PIN
- Key Registration
- Clear All Teen Keys/PIN

View Report Card

This allows the driver's driving habits to be viewed. See "Teen Driver" in "Settings" in the Infotainment Manual.

Manage Settings

Select and the following may display:

- Audio Volume Limit
- Teen Driver Speed Warning

Audio Volume Limit

This allows a maximum radio volume to be set.

Select Off or On.

Teen Driver Speed Warning

This allows a warning to be set when a certain speed is exceeded.

Select Off or On. If On is selected, select a speed between 64 km/h (40 mph) and 120 km/h (75 mph).

Change PIN

This allows the Personal Identification Number (PIN) to be changed. See “Teen Driver” in “Settings” in the Infotainment Manual.

Key Registration

This allows the key to be registered. See “Teen Driver” in “Settings” in the Infotainment Manual.

Clear All Teen Keys/PIN

This allows all Teen Driver keys and PINs to be cleared.

Select Continue or Cancel.

Valet Mode

This will lock the infotainment system and steering wheel controls. It may also limit access to vehicle storage locations (if equipped).

To enable valet mode:

1. Enter a four-digit code on the keypad.
2. Select Enter to go to the confirmation screen.
3. Re-enter the four-digit code.

Press LOCK or UNLOCK to lock or unlock the system. Press Back to go back to the previous menu.

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DEALER E-PROCESS

Radio

Select and the following may display:

- Manage Favorites
- Number of Favorites Shown
- Auto Volume
- Maximum Startup Volume
- Audio Cue Volume

Manage Favorites

This allows favorites to be edited. See “Manage Favorites” in “Settings” under “Radio” in the infotainment manual.

Number of Favorites Shown

Select to set the number of favorites to display.

Select the desired number or select Auto and the infotainment system will automatically adjust the number of favorites shown.

Auto Volume

This feature adjusts the volume based on vehicle speed and ambient noise.

Select Off, Low, Medium-Low, Medium, Medium-High, or High.

Maximum Startup Volume

This feature sets the maximum startup volume. If the vehicle is started and the volume is greater than this level, the volume is adjusted to this level. To set the maximum startup volume, touch + or − to increase or decrease.

Audio Cue Volume

This feature sets the volume of audio files played at system startup and shutdown.

Select On, then select + or − to increase or decrease the volume.

Vehicle

Select and the following may display:

- Climate and Air Quality
- Collision/Detection Systems
- Comfort and Convenience
- Energy
- Lighting
- Power Door Locks
- Remote Lock, Unlock, Start

Climate and Air Quality

Select and the following may display:

- Auto Fan Speed
- Auto Heated Seats
- Auto Defog
- Engine Assist Heat
- Engine Assist Heat Plugged In

Auto Fan Speed

This feature will set the maximum auto fan speed.

Select Low, Medium, or High.

Auto Heated Seats

When enabled, the AUTO heated seat buttons on the touch screen will be highlighted. This feature will automatically activate heated seats at the level required by the interior temperature. The auto heated seats can be turned off by using the heated seat buttons on the center stack.

Select Off or On.

Auto Defog

When set to On, the front defog will automatically come on when the vehicle is started.

Select Off or On.

Engine Assist Heat

If equipped, this feature selects the outside temperature level at which the engine may run to assist heating in Electric Mode. A change in selection will not take effect until after the vehicle is first powered down.

Select On for temperatures below approximately 2 °C (35 °F), or select Deferred for temperatures below approximately −10 °C (15 °F).

Engine Assist Heat Plugged In

During remote start, this feature turns on or off the ability for the engine to run to help heat the vehicle when it is plugged in. A change in setting will not take effect until after the vehicle is first powered down.

DEP DEALER E-PROCESS

Select Off or On.

Collision/Detection Systems

Select and the following may display:

- Auto Collision Preparation or Forward Collision System
- Rear Cross Traffic Alert
- Lane Change Alert

Auto Collision Preparation or Forward Collision System

This feature will turn on or off the Forward Collision Alert (FCA) and Forward Automatic Braking (FAB). The Off setting disables all FCA and FAB functions. With the Alert and Brake setting, both FCA and FAB are available. The Alert setting disables FAB. See *Forward Automatic Braking (FAB)* ⇨ *210*.

Select Off, Alert, or Alert and Brake.

Rear Cross Traffic Alert

This allows the Rear Cross Traffic Alert to be turned on or off.

Select Off or On. See *Assistance Systems for Parking or Backing* ⇨ *204*.

Lane Change Alert

This allows the Lane Change Alert feature to be turned on or off.

Select Off or On. See *Lane Change Alert (LCA)* ⇨ *211*.

Comfort and Convenience

Select and the following may display:

- Chime Volume
- Extended Hill Start Assist

Chime Volume

This allows the selection of the chime volume level.

Select + or − to adjust the volume.

Extended Hill Start Assist

This allows the duration of the Hill Start Assist to be changed. See "Extended Hill Start Assist (EHSA)" in *Hill Start Assist (HSA)* ⇨ *190*.

Select Extended Hold or Standard Hold.

Energy

Select and the following may display:

- Location Based Charging
- Energy Summary Pop-up
- Charge Status Feedback
- Charge Cord Theft Alert
- Charge Power Loss Alert

Location Based Charging

This allows the feature to be turned on or off.

Select Update Home Location, On, or Off.

Energy Summary Pop-up

This allows the feature to be turned on or off.

Select Off or On.

Charge Status Feedback

If the feature is on, horn chirps are on.

Select Off or On.

DEP DEALER E-PROCESS

Charge Cord Theft Alert

This allows the feature to be turned on or off.

Select Off or On.

Charge Power Loss Alert

This allows the feature to be turned on or off.

Select Off or On.

Lighting

Select and the following may display:

- Vehicle Locator Lights
- Exit Lighting

Vehicle Locator Lights

This feature will flash the exterior lamps and allows some of the exterior lamps and most of the interior lamps to turn on briefly when on the Remote Keyless Entry (RKE) transmitter is pressed to locate the vehicle.

Select Off or On.

Exit Lighting

This allows the selection of how long the exterior lamps stay on when leaving the vehicle when it is dark outside.

Select Off, 30 Seconds, 60 Seconds, or 120 Seconds.

Power Door Locks

Select and the following may display:

- Unlocked Door Anti-Lockout
- Auto Door Unlock
- Delayed Door Lock

Unlocked Door Anti-Lockout

When on, this feature will keep the driver door from locking when the door is open. If Off is selected, the Delayed Door Lock menu will be available.

Select Off or On.

Auto Door Unlock

This allows selection of which of the doors will automatically unlock when the vehicle is shifted into P (Park).

Select Off, All Doors, or Driver Door.

Delayed Door Lock

When on, this feature will delay the locking of the doors. To override the delay, press the power door lock switch on the door.

Select Off or On.

Remote Lock, Unlock, Start

Select and the following may display:

- Remote Unlock Light Feedback
- Remote Lock Feedback
- Remote Door Unlock
- Remote Start Auto Heat Seats
- Remote Window Operation
- Passive Door Unlock
- Passive Door Lock
- Remote Left in Vehicle Alert

Remote Unlock Light Feedback

When on, the exterior lamps will flash when unlocking the vehicle with the RKE transmitter.

Select Off or Flash Lights.

DEALER E-PROCESS

Remote Lock Feedback

This allows selection of what type of feedback is given when locking the vehicle with the RKE transmitter.

Select Off, Lights and Horn, Lights Only, or Horn Only.

Remote Door Unlock

This allows selection of which doors will unlock when pressing on the RKE transmitter.

Select All Doors or Driver Door.

Remote Start Auto Heat Seats

If equipped and turned on, this feature will turn the heated seats on when using remote start on cold days.

Select Off or On.

Remote Window Operation

This allows the window to be opened when pressing and holding on the RKE transmitter. See *Remote Keyless Entry (RKE) System Operation* ⇨ *30*.

Select Off or On.

Passive Door Unlock

This allows the selection of what doors will unlock when using the door handle touch pad button on the driver door to unlock the vehicle.

Select All Doors or Driver Door.

Passive Door Lock

This allows passive locking to be turned on or off and selects feedback. See “Passive Locking” in *Remote Keyless Entry (RKE) System Operation* ⇨ *30*.

Select Off, On with Horn Chirp, or On.

Remote Left in Vehicle Alert

This feature sounds an alert when the RKE transmitter is left in the vehicle.

Select Off or On.

Bluetooth

Select and the following may display:

- Pair New Device
- Device Management
- Ringtones
- Voice Mail Numbers
- Text Message

Pair New Device

Select to pair a new device. See “Pairing” in “Infotainment Controls” under “Bluetooth” in the infotainment manual.

Device Management

Select to connect to a different phone source, disconnect a phone, or delete a phone.

Ringtones

Select to change the ring tone for the specific phone. The phone does not need to be connected to change the ring tone.

Voice Mail Numbers

This feature displays the voice mail number for all connected phones. To change the voice mail number, select EDIT and type in a new number, then select SAVE.

DEP DEALER E-PROCESS

Text Message

This feature allows text messages to be received. See “Text Messaging” under “Phone” in the infotainment manual.

Select Off or On.

Apple CarPlay™

Select and the following may display:

- Apple CarPlay
- Manage Apple CarPlay Devices

Apple CarPlay

This feature allows Apple devices to be connected to the infotainment system through a USB port.

Select Off or On.

Manage Apple CarPlay Devices

Select to manage Apple devices. Apple CarPlay must be on for this feature to be accessed.

Android Auto™

Select and the following may display:

- Android Auto
- Manage Android Auto Devices

Android Auto

This feature allows Android devices to be connected to the infotainment system through a USB port.

Select Off or On.

Manage Android Auto Devices

Select to manage Android devices. Android Auto must be on for this feature to be accessed.

USB Auto Launch

This allows Android and Apple CarPlay devices to automatically connect when plugged into the USB port.

Select Off or On.

Voice

Select and the following may display:

- Confidence Threshold
- Prompt Length
- Audio Feedback Speed

Confidence Threshold

This feature allows the adjustment of the sensitivity of the speech recognition system.

Select Confirm More or Confirm Less.

Prompt Length

This feature adjusts the voice prompt length.

Select Short or Long.

Audio Feedback Speed

This feature adjusts the audio feedback speed.

Select Slow, Medium, or Fast.

Display

Select and the following may display:

- Mode
- Proximity Sensing
- Calibrate Touchscreen
- Turn Display Off

DEP DEALER E-PROCESS

Mode

Select to change the display screen for day or night driving.

Select Auto, Day, or Night.

Proximity Sensing

When on, certain screen buttons and features will become visible when a hand approaches the screen.

Select Off, On, or On - Map Only.

Calibrate Touchscreen

Select to calibrate the touchscreen, then follow the prompts.

Turn Display Off

Select to turn the display off. Touch anywhere on the display area or press any faceplate button to turn the display on.

Rear Camera

Select and the following may display:

- Guidance Lines
- Rear Park Assist Symbols

Guidance Lines

Select to turn Off or On. See *Assistance Systems for Parking or Backing* ⇨ *204*.

Rear Park Assist Symbols

Select to turn Off or On. See *Assistance Systems for Parking or Backing* ⇨ *204*.

Return to Factory Settings

Select and the following may display:

- Restore Vehicle Settings
- Clear All Private Data
- Restore Radio Settings

Restore Vehicle Settings

This allows selection of restoring vehicle settings.

Select Restore or Cancel.

Clear All Private Data

This allows selection to clear all private information from the vehicle.

Select Delete or Cancel.

Restore Radio Settings

This allows selection to restore radio settings.

Select Restore or Cancel.

Software Information

Select to view the infotainment system current software information.

DEP DEALER E-PROCESS

Lighting

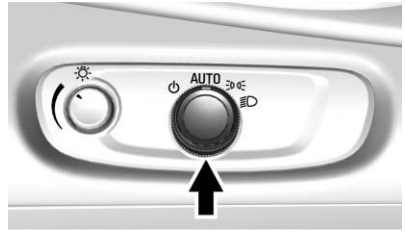
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Exterior Lighting

Exterior Lamp Controls



The exterior lamp control is on the instrument panel to the left of the steering column.

There are four positions.

⏻ **:** Turns the exterior lamps off.

AUTO : Turns the exterior lamps on and off automatically depending on outside lighting.

: Turns on the parking lamps including all lamps, except the headlamps.

: Turns on the headlamps together with the parking lamps and instrument panel lights.

IntelliBeam® System

If equipped, this system turns the vehicle's high-beam headlamps on and off according to surrounding traffic conditions.

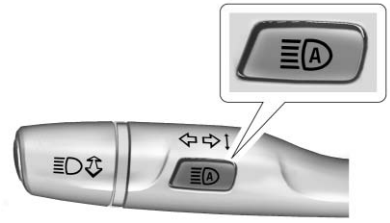
The system turns the high-beam headlamps on when it is dark enough and there is no other traffic present.



This light comes on in the instrument cluster when the IntelliBeam system is enabled.

DEP
DEALER E-PROCESS

Turning On and Enabling IntelliBeam



To enable the IntelliBeam system, press ≡Ⓐ on the turn signal lever when the exterior lamp control is in AUTO or ≡D. The blue high-beam on light appears on the instrument cluster when the high beams are on.

Driving with IntelliBeam

The system only activates the high beams when driving over 40 km/h (25 mph).

There is a sensor near the top center of the windshield that automatically controls the system. Keep this area of the windshield clear of debris to allow for best system performance.

The high-beam headlamps remain on, under the automatic control, until one of the following situations occurs:

- The system detects an approaching vehicle's headlamps.
- The system detects a preceding vehicle's taillamps.
- The outside light is bright enough that high-beam headlamps are not required.
- The vehicle's speed drops below 20 km/h (12 mph).
- The IntelliBeam system is disabled by the high/low-beam changer or the flash-to-pass feature. If this happens, press ≡Ⓐ on the turn signal lever when the exterior lamp control is in the AUTO or ≡D position to reactivate the IntelliBeam system. The instrument cluster light will come on to indicate the IntelliBeam system is reactivated. See *Headlamp High/Low-Beam Changer* ⇨ *151* and *Flash-to-Pass* ⇨ *151*.

The high beams may not turn off automatically if the system cannot detect another vehicle's lamps because of any of the following:

- The other vehicle's lamps are missing, damaged, obstructed from view, or otherwise undetected.
- The other vehicle's lamps are covered with dirt, snow, and/or road spray.
- The other vehicle's lamps cannot be detected due to dense exhaust, smoke, fog, snow, road spray, mist, or other airborne obstructions.
- The vehicle's windshield is dirty, cracked, or obstructed by something that blocks the view of the light sensor.
- The vehicle is loaded such that the front end points upward, causing the light sensor to aim high and not detect headlamps and taillamps.

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- The vehicle is being driven on winding or hilly roads.

The IntelliBeam system may need to be disabled if any of the above conditions exist.

Headlamp High/ Low-Beam Changer

: Push the turn signal lever away from you and release, to turn the high beams on. To return to low beams, push the lever again or pull it toward you and release.



This indicator light turns on in the instrument cluster when the high-beam headlamps are on.

Flash-to-Pass

The flash-to-pass feature works with the low beams or Daytime Running Lamps (DRL) on or off.

To flash the high beams, pull the turn signal lever toward you momentarily and then release it.

Daytime Running Lamps (DRL)

The DRL system comes on in daylight when the following conditions are met:

- The vehicle is on.
- The exterior lamp control is in the automatic position.
- The electric drive unit is not in P (Park).
- The light sensor determines it is daytime.

Fully functional DRL are required on all vehicles first sold in Canada.

When the DRL are on, the taillamps, sidemarker lamps, instrument panel lights, and other lamps will not be on. The instrument cluster will be lit.

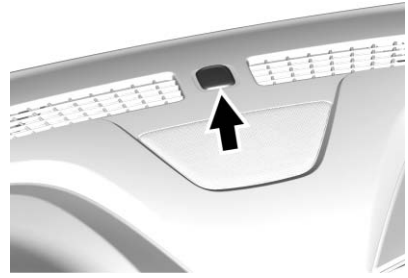
When the exterior lamp control is turned to the headlamp position, the low-beam headlamps come on. The other lamps that come on with the headlamps will also come on.

When the vehicle is on and you are stopped, the DRL can be turned off by moving the shift lever to P (Park). The DRL will stay off until the shift lever is moved out of the P (Park) position.

The regular headlamp system should be turned on when needed.

Automatic Headlamp System

When the exterior lamp control is set to AUTO and it is dark enough outside, the headlamps come on automatically.



DEALER E-PROCESS

There is a light sensor on top of the instrument panel. Do not cover the sensor, otherwise the headlamps will come on when they are not needed.

The system may also turn on the headlamps when driving through a parking garage or tunnel.

If the vehicle is started in a dark garage, the automatic headlamp system comes on immediately. If it is light outside when the vehicle leaves the garage, there is a slight delay before the automatic headlamp system changes to the DRL. During that delay, the instrument cluster may not be as bright as usual. Make sure the instrument panel brightness control is in the full bright position. See *Instrument Panel Illumination Control* ⇨ *153*.

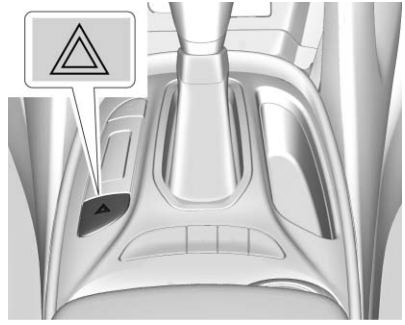
When it is bright enough outside, the headlamps will turn off or may change to Daytime Running Lamps (DRL).

The automatic headlamp system turns off when the exterior lamp control is turned to ⏻ or the ignition is off.

Lights On with Wipers

If the windshield wipers are activated in daylight with the vehicle pushbutton start in the ON/RUN position, and the exterior lamp control is in AUTO, the headlamps, parking lamps, and other exterior lamps come on. The transition time for the lamps coming on varies based on wiper speed. When the wipers are not operating, these lamps turn off. Move the exterior lamp control to ⏻ or ≥00≤ to disable this feature.

Hazard Warning Flashers

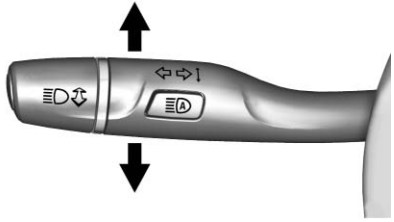


⚠ : Press to make the front and rear turn signal lamps flash on and off. This warns others that you are having trouble.

Press ⚠ again to turn the flashers off.

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Turn and Lane-Change Signals



Move the lever all the way up or down to signal a turn.

An arrow on the instrument cluster will flash in the direction of the turn or lane change.

Raise or lower the lever until the arrow starts to flash to signal a lane change. Hold it there until the lane change is complete. If the lever is moved momentarily to the lane change position, the arrow will flash three times.

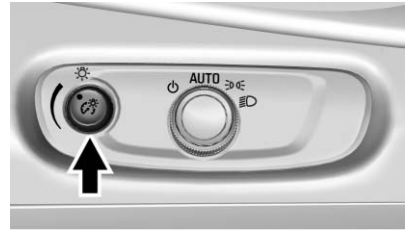
The lever returns to its starting position when it is released.

If after signaling a turn or lane change, the arrow flashes rapidly or does not come on, a signal bulb may be burned out.

Have any burned out bulbs replaced. If a bulb is not burned out, check the fuse. See *Instrument Panel Fuse Block* ⇨ *266*.

Interior Lighting

Instrument Panel Illumination Control



The brightness of the instrument panel cluster display, infotainment display and controls, steering wheel controls, and all other illuminated controls, as well as feature status indicators can be adjusted.

The knob for this feature is on the instrument panel beside the steering column.

Turn the knob clockwise or counterclockwise to brighten or dim the lights.

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Dome Lamps



The dome lamp controls are in the overhead console.

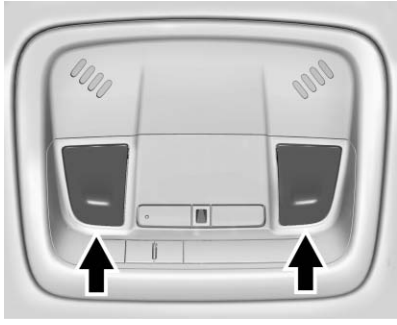
To operate, press the following buttons:

OFF : Press to turn off the dome lamps when a door is open. An LED indicator on the button will turn on when the dome lamp override is activated. Press OFF again to deactivate this feature and the LED indicator will turn off. The dome lamps will come on when doors are opened.

ON/OFF : Press to turn the dome lamps on manually.

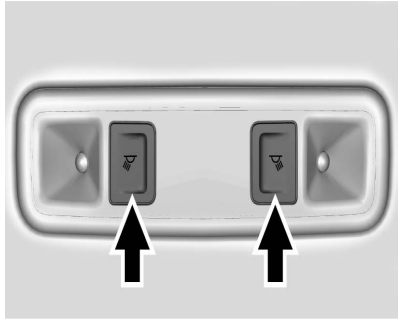
Reading Lamps

There are front and rear reading lamps.



The front reading lamps are in the overhead console.

Press the lamp lenses to turn the front reading lamps on or off.



The rear reading lamps are in the headliner.

Press the button near each lamp to turn the rear reading lamps on or off.

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Lighting Features

Entry Lighting

Some exterior lamps and the interior lights turn on briefly at night when the Remote Keyless Entry (RKE) transmitter is pressed. The lights turn off immediately when POWER is pressed or automatically after a brief period.

Exit Lighting

Some exterior lamps come on at night when the vehicle is turned off and the driver door is opened. Some interior lights also come on when the vehicle is turned off. The exterior lamps and interior lights remain on after the door is closed for a brief period and then turn off.

The exit lighting feature can be changed. See *Vehicle Personalization* ⇨ *141*.

Battery Power Protection

The battery saver feature is designed to protect the vehicle's 12-volt battery.

If the exterior lamps or any interior lamp is left on and the vehicle is turned off, the battery rundown protection system automatically turns the lamps off after about 10 minutes.

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Infotainment System

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Infotainment 156

Introduction

Infotainment

Your vehicle has an infotainment system. See the infotainment manual.

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Climate Control Systems

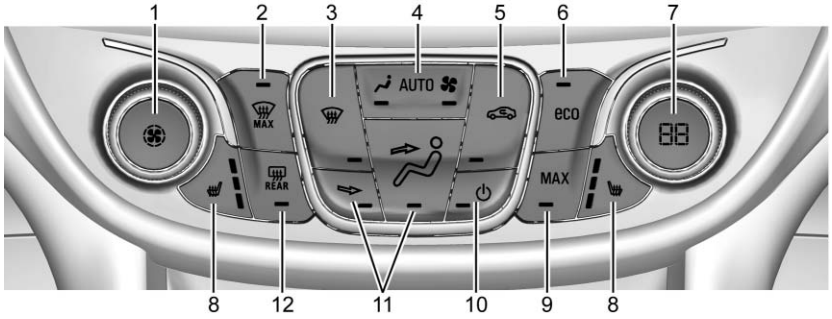
Automatic Climate Control System

The heating, cooling, and ventilation for the vehicle can be controlled with this system.

The vehicle may require the use of an auxiliary heat source under certain cold conditions. This provides additional heating and defrost capability obtained by running the engine, even if the high voltage battery is adequately charged. Under these conditions, the engine will start and use fuel. Make sure there is fuel in the tank.

Do not allow the vehicle to remain in extreme temperatures for long periods without being driven or plugged in.

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1. Manual Fan Control Knob
2. MAX Defrost
3. Defrost/Defog
4. AUTO (Automatic Operation)
5. Recirculation
6. eco Climate Mode Button
7. Temperature Control Knob
8. Driver and Passenger Heated Seats (If Equipped)
9. MAX Climate Mode Button
10. Power Button
11. Air Delivery Mode Controls
12. Rear Window Defogger

Climate Mode Operation

There are three climate mode settings: Fan Only, eco, and MAX. These settings adjust the impact the climate control system has on the vehicle's electric range or fuel economy.

To select a climate mode, press eco.

Fan Only Mode : To select this mode, turn off both eco and MAX mode. The air conditioning and electric heat are turned off. As long as MAX is not selected, the climate control settings may not have a noticeable effect on the vehicle electric range and fuel economy.

When in Fan Only mode, the AUTO indicator light will be on. When AUTO is selected in Fan Only mode, the mode will change to either eco or MAX.

When in Fan Only mode, the air conditioning system may turn on automatically if the high voltage battery is being cooled. The climate control system could blow cold air. This is normal. To prevent cold air from blowing into the interior, turn off the fan control and select the vent mode and manual recirculation mode, and close the air vents.

When in Fan Only mode, if Auto Defog is enabled, the air conditioning and electric heat may turn on when high humidity conditions exist. See “Climate and Air Quality” under *Vehicle Personalization* ⇨ *141* for more information on the Auto Defog selection. The air conditioning may also run if MAX is selected.

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eco Mode : Press eco to select this mode and the indicator will be lit. The air conditioning and electric heat are controlled to balance comfort with fuel economy. As long as MAX is not selected, the vehicle electric range or fuel economy will decrease less than in MAX mode, but will result in moderate comfort.

MAX Mode : Press MAX to select this mode and the indicator will be lit. The air conditioning and electric heat are controlled to reach the best comfort level based on the temperature setting selected. In this mode, vehicle electric range or fuel economy will decrease depending on the amount of energy required to reach the best comfort levels.

The air conditioning and electric heat could be on at the same time when dehumidification is required in eco or MAX modes.

The air conditioning may also run if MAX is selected, regardless of the climate mode.

Automatic Operation

The system automatically controls the fan speed, air delivery mode, and recirculation to heat or cool the vehicle to the selected temperature.

When the AUTO indicator light is on, the system is in full automatic operation. If the air delivery mode or fan speed setting is adjusted, the AUTO indicator turns off and the selected settings display.

For automatic operation:

1. Press AUTO.
2. Set the temperature. An initial setting of 23 °C (74 °F) is recommended. Allow the system time to stabilize. Adjust the temperature as needed.

Manual Operation

: Press to turn the climate control system on and off.

: Turn the knob clockwise or counterclockwise to increase or decrease the fan speed. The fan speed setting appears on the display screen. Manually adjusting the fan speed cancels automatic fan control. Press AUTO to return to automatic operation. Press to turn off the fan and the climate control system.

If the power is turned off while in eco or MAX mode, the display will automatically change to Fan Only mode. If the fan speed is increased or AUTO is pressed, the climate mode will revert back to eco or MAX mode.

Temperature Control : Turn the knob clockwise or counterclockwise to increase or decrease the temperature setting.

Air Delivery Mode Control : Press and or a combination of the buttons to change the direction of the airflow. The indicator light in the button will turn on. The current mode appears in the display screen.

Pressing any of the air delivery buttons cancels automatic air delivery control and the direction of the airflow can be controlled manually. Press AUTO to return to automatic operation.

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To change the current mode, select one or more of the following:

: Air is directed to the windshield.

: Air is directed to the instrument panel outlets.

: Air is directed to the floor outlets.

MAX : Air is directed to the windshield and the fan runs at a higher speed. Fog or frost is cleared from the windshield more quickly. When the button is pressed again, the system returns to the previous mode setting.

For best results, clear all snow and ice from the windshield before defrosting.

If MAX is selected in eco or MAX mode, air conditioning or electric heat may turn on and have a noticeable effect on vehicle electric range and fuel economy.

: Press to turn on recirculation. An indicator light comes on. Air is recirculated to quickly cool the inside of the vehicle or to reduce the entry of outside air and odors. The recirculation mode is not available in Defrost or Defog modes.

Pressing this button cancels automatic recirculation. Press AUTO to return to automatic operation; recirculation runs automatically as needed.

Auto Defog : The system will monitor high humidity inside the vehicle. When high humidity is detected, the climate control system may adjust to outside air supply and turn on the air conditioner or the heater. The fan speed may slightly increase to help prevent fogging. When high humidity is no longer detected, the system will return to its prior operation. To turn Auto Defog off or on, see “Climate and Air Quality” under *Vehicle Personalization* ⇨ *141*.

or : If equipped, press or to heat the driver or passenger seat. See *Heated Front Seats* ⇨ *54*.

Auto Heated Seats : If equipped, the controls can be accessed while the vehicle is on by pressing or on the center stack. When the vehicle is on, this feature will automatically activate the heated seats at the level required by the vehicle's interior temperature. The active high, medium, low, or off heated seat level will be indicated by the manual heated seat button lights on the center stack. See *Heated Front Seats* ⇨ *54* and *Vehicle Personalization* ⇨ *141*.

Rear Window Defogger

REAR **:** Press to turn the rear window defogger on or off. An indicator light on the button comes on to show that the rear window defogger is on.

The defogger only works when the vehicle is in ON/RUN. The defogger will turn off if the vehicle is turned off.

If equipped with heated outside rearview mirrors, they turn on when the rear window defogger button is on and help to clear fog or frost from the surface of the mirror. See *Heated Mirrors* ⇨ *46*.

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Caution

Do not try to clear frost or other material from the inside of the front windshield and rear window with a razor blade or anything else that is sharp. This may damage the rear window defogger grid and affect the radio's ability to pick up stations clearly. The repairs would not be covered by the vehicle warranty.

Remote Start : The climate control system may be started by using the Remote Keyless Entry (RKE) transmitter. The climate control system will default to an appropriate heating or cooling mode. See *Remote Start* ⇨ *36*.

The rear window defogger turns on if it is cold outside.

Compressor

The vehicle has an electric powered air conditioning compressor. This allows for continuous air conditioning and/or high voltage battery cooling operation, without running the engine.

The compressor operating speed is not tied to the engine speed, so some noise may be heard from the compressor, especially when air conditioning use is high and the engine has turned off. This is normal.

Sensors

Solar Sensor

The solar sensor is on top of the instrument panel, near the windshield, where it monitors solar intensity.

The climate control system uses the sensor information to adjust the temperature, fan speed, recirculation, and air delivery mode for best comfort.

Do not cover the sensor; otherwise the automatic climate control system may not work properly.

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DEALER E-PROCESS

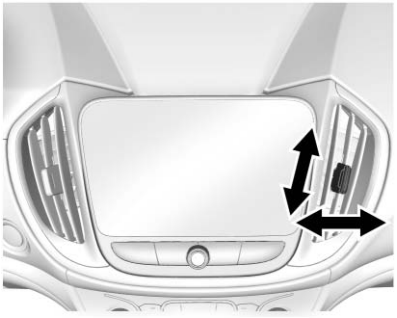
Humidity Sensor

The humidity sensor is near the base of the inside rearview mirror. The climate control system uses the sensor information to adjust the temperature and recirculation for best comfort.

Outside Air Temperature Sensor

The outside air temperature sensor is behind the front grille of the vehicle. The vehicle uses the sensor information to display outside air temperature. The climate control system uses the information to adjust the climate system operation.

Air Vents



Use the louvers on the air vents to change the direction of the airflow, or to open and close off the airflow.

Operation Tips

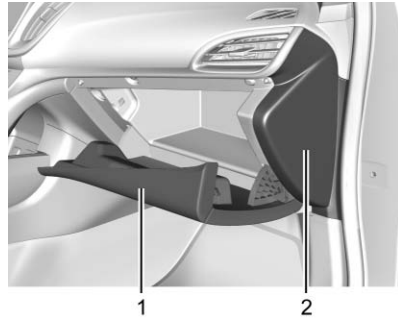
- Keep all outlets open whenever possible for best system performance.
- Keep the path under all seats clear of objects to help circulate the air inside the vehicle more effectively.
- Use of non-GM approved hood deflectors can adversely affect the performance of the system.
- Do not attach any devices to the air vent slats. This restricts airflow and may cause damage to the air vents.

Maintenance

Passenger Compartment Air Filter

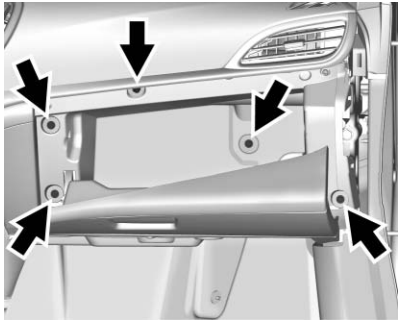
The filter removes dust, pollen, and other airborne irritants from outside air that is pulled into the vehicle.

The filter should be replaced as part of routine scheduled maintenance. See *Maintenance Schedule* ⇨ *326*. To find out what type of filter to use, see *Maintenance Replacement Parts* ⇨ *335*.

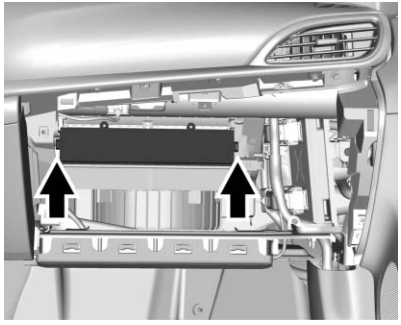


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1. Open the glove box door (1) completely. Grasp the edges of the side instrument panel trim (2) and pull to remove from the instrument panel.



2. Remove the five screws and pull the entire glove box toward you to release completely. The service door can now be accessed.



3. Release the retainer clips holding the service door. Open the service door and remove the old filter.
4. Install the new air filter.
5. Close the service door and attach the retainer clips.
6. Reverse the steps to reinstall the glove box.

See your dealer if additional assistance is needed.

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Driving Information

Distracted Driving

Distraction comes in many forms and can take your focus from the task of driving. Exercise good judgment and do not let other activities divert your attention away from the road. Many local governments have enacted laws regarding driver distraction. Become familiar with the local laws in your area.

To avoid distracted driving, always keep your eyes on the road, hands on the wheel, and mind on the drive.

- Do not use a phone in demanding driving situations. Use a hands-free method to place or receive necessary phone calls.
- Watch the road. Do not read, take notes, or look up information on phones or other electronic devices.
- Designate a front seat passenger to handle potential distractions.
- Become familiar with vehicle features before driving, such as programming favorite radio stations and adjusting climate control and seat settings. Program all trip information into any navigation device prior to driving.
- Wait until the vehicle is parked to retrieve items that have fallen to the floor.
- Stop or park the vehicle to tend to children.
- Keep pets in an appropriate carrier or restraint.
- Avoid stressful conversations while driving, whether with a passenger or on a cell phone.

⚠ Warning

Taking your eyes off the road too long or too often could cause a crash resulting in injury or death. Focus your attention on driving.

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Refer to the separate Infotainment system manual for more information on using that system, including pairing and using a cell phone.

If equipped, refer to the navigation manual for information on that system, including pairing and using a cell phone.

Defensive Driving

Defensive driving means “always expect the unexpected.” The first step in driving defensively is to wear the safety belt. See *Safety Belts* ⇨ *57*.

- Assume that other road users (pedestrians, bicyclists, and other drivers) are going to be careless and make mistakes. Anticipate what they might do and be ready.
- Allow enough following distance between you and the driver in front of you.
- Focus on the task of driving.

Drunk Driving

Death and injury associated with drinking and driving is a global tragedy.

⚠ Warning

Drinking and then driving is very dangerous. Your reflexes, perceptions, attentiveness, and judgment can be affected by even a small amount of alcohol. You can have a serious — or even fatal — collision if you drive after drinking.

Do not drink and drive or ride with a driver who has been drinking. Ride home in a cab; or if you are with a group, designate a driver who will not drink.

Control of a Vehicle

Braking, steering, and accelerating are important factors in helping to control a vehicle while driving.

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Braking

Braking action involves perception time and reaction time. Deciding to push the brake pedal is perception time. Actually doing it is reaction time.

Average driver reaction time is about three-quarters of a second. In that time, a vehicle moving at 100 km/h (60 mph) travels 20 m (66 ft), which could be a lot of distance in an emergency.

Helpful braking tips to keep in mind include:

- Keep enough distance between you and the vehicle in front of you.
- Avoid needless heavy braking.
- Keep pace with traffic.

Power brake assist is available unless the 12-volt battery drains or there is a fault in the brake computer.

Steering

Electric Power Steering

The vehicle has electric power steering. It does not have power steering fluid. Regular maintenance is not required.

If power steering assist is lost due to a system malfunction, the vehicle can be steered, but may require increased effort.

See your dealer if there is a problem.

If the steering wheel is turned until it reaches the end of its travel and is held against that position for an extended period of time, power steering assist may be reduced.

If the steering assist is used for an extended period of time, power assist may be reduced.

Normal use of the power steering assist should return when the system cools down.

See specific vehicle steering messages under *Service Vehicle Messages* ⇨ *139*. See your dealer if there is a problem.

Curve Tips

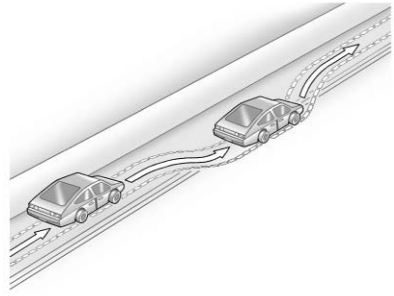
- Take curves at a reasonable speed.
- Reduce speed before entering a curve.
- Maintain a reasonable steady speed through the curve.
- Wait until the vehicle is out of the curve before accelerating gently into the straightaway.

Steering in Emergencies

- There are some situations when steering around a problem may be more effective than braking.
- Holding both sides of the steering wheel allows you to turn 180 degrees without removing a hand.
- The Antilock Brake System (ABS) allows steering while braking.

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Off-Road Recovery



The vehicle's right wheels can drop off the edge of a road onto the shoulder while driving. Follow these tips:

1. Ease off the accelerator and then, if there is nothing in the way, steer the vehicle so that it straddles the edge of the pavement.
2. Turn the steering wheel about one-eighth of a turn, until the right front tire contacts the pavement edge.

3. Turn the steering wheel to go straight down the roadway.

Loss of Control

Skidding

There are three types of skids that correspond to the vehicle's three control systems:

- Braking Skid — wheels are not rolling.
- Steering or Cornering Skid — too much speed or steering in a curve causes tires to slip and lose cornering force.
- Acceleration Skid — too much throttle causes the driving wheels to spin.

Defensive drivers avoid most skids by taking reasonable care suited to existing conditions, and by not overdriving those conditions. But skids are always possible.

If the vehicle starts to slide, follow these suggestions:

- Ease your foot off the accelerator pedal and steer the way you want the vehicle to go. The vehicle may straighten out. Be ready for a second skid if it occurs.
- Slow down and adjust your driving according to weather conditions. Stopping distance can be longer and vehicle control can be affected when traction is reduced by water, snow, ice, gravel, or other material on the road. Learn to recognize warning clues — such as enough water, ice, or packed snow on the road to make a mirrored surface — and slow down when you have any doubt.
- Try to avoid sudden steering, acceleration, or braking, including reducing vehicle speed by shifting to a low gear or by using Regen on Demand. Any sudden changes could cause the tires to slide.

Remember: Antilock brakes help avoid only the braking skid.

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Driving on Wet Roads

Rain and wet roads can reduce vehicle traction and affect your ability to stop and accelerate. Always drive slower in these types of driving conditions and avoid driving through large puddles and deep-standing or flowing water.

⚠ Warning

Wet brakes can cause crashes. They might not work as well in a quick stop and could cause pulling to one side. You could lose control of the vehicle.

After driving through a large puddle of water or a car/vehicle wash, lightly apply the brake pedal until the brakes work normally.

Flowing or rushing water creates strong forces. Driving through flowing water could cause the vehicle to be carried away. If this happens, you and other vehicle

(Continued)

Warning (Continued)

occupants could drown. Do not ignore police warnings and be very cautious about trying to drive through flowing water.

Hydroplaning

Hydroplaning is dangerous. Water can build up under the vehicle's tires so they actually ride on the water. This can happen if the road is wet enough and you are going fast enough. When the vehicle is hydroplaning, it has little or no contact with the road.

There is no hard and fast rule about hydroplaning. The best advice is to slow down when the road is wet.

Other Rainy Weather Tips

Besides slowing down, other wet weather driving tips include:

- Allow extra following distance.
- Pass with caution.
- Keep windshield wiping equipment in good shape.
- Keep the windshield washer fluid reservoir filled.
- Have good tires with proper tread depth. See *Tires* ⇨ *271*.
- Turn off cruise control.

Hill and Mountain Roads

Driving on steep hills or through mountains is different than driving on flat or rolling terrain. See “Mountain Mode” under *Driver Selected Operating Modes* ⇨ *181*. Tips include:

- Keep the vehicle serviced and in good shape.
- Check all fluid levels and brakes, tires, cooling system, and electric drive unit.
- Keep the vehicle in gear when going down steep or long hills.

⚠ Warning

Coasting downhill in N (Neutral) or with the vehicle turned off is dangerous. The brakes will have

(Continued)

Warning (Continued)

to do all the work of slowing down the vehicle and could become too hot. Hot brakes may not be able to slow the vehicle enough to maintain speed and control. You could crash. Always have the vehicle running and in gear (preferably LOW range) when going downhill. This will allow the electric drive unit to assist in slowing and maintaining speed.

- Drive at speeds to keep the vehicle in its own lane. Do not swing wide or cross the center line.
- Be alert on top of hills. Something could be in your lane (e.g., stalled car, accident).
- Pay attention to special road signs (e.g., falling rocks area, winding roads, long grades, passing or no-passing zones) and take appropriate action.

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Winter Driving

Driving on Snow or Ice

Snow or ice between the tires and the road creates less traction or grip, so drive carefully. Wet ice can occur at about 0 °C (32 °F) when freezing rain begins to fall. Avoid driving on wet ice or in freezing rain until roads can be treated.

For slippery road driving:

- Accelerate gently. Accelerating too quickly causes the wheels to spin and makes the surface under the tires slick.
- Turn on Traction Control. See *Traction Control/Electronic Stability Control* ⇨ *192*.
- The Antilock Brake System (ABS) improves vehicle stability during hard stops, but the brakes should be applied sooner than when on dry pavement. See *Antilock Brake System (ABS)* ⇨ *188*.
- Allow greater following distance and watch for slippery spots. Icy patches can occur on otherwise clear roads in shaded areas. The surface of a curve or an overpass can remain icy when the surrounding roads are clear. Avoid sudden steering maneuvers and braking while on ice.
- Turn off cruise control.

Stay with the vehicle unless there is help nearby. If possible, use Roadside Assistance. See *Roadside Assistance Program* ⇨ *345*. To get help and keep everyone in the vehicle safe:

- Turn on the hazard warning flashers.
- Tie a red cloth to an outside mirror.

⚠ Warning

Snow can trap engine exhaust under the vehicle. This may cause exhaust gases to get inside. Engine exhaust contains carbon monoxide (CO), which

(Continued)

Warning (Continued)

cannot be seen or smelled. It can cause unconsciousness and even death.

If the vehicle is stuck in snow:

- Clear snow from the base of the vehicle, especially any blocking the exhaust pipe.
- Open a window about 5 cm (2 in) on the vehicle side that is away from the wind, to bring in fresh air.
- Fully open the air outlets on or under the instrument panel.
- Adjust the climate control system to circulate the air inside the vehicle and set the fan speed to the highest setting. See “Climate Control Systems.”

For more information about CO, see *Engine Exhaust* ⇨ *185*.

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To save fuel, start the vehicle for short periods to warm the vehicle and then shut the engine off and partially close the window. Moving about to keep warm also helps.

If the Vehicle Is Stuck

Slowly and cautiously spin the wheels to free the vehicle when stuck in sand, mud, ice, or snow.

The Traction Control System (TCS) must be turned off by pressing the TCS/ESC button. Traction control is not completely off, but will only engage if the maneuver can cause damage to the electric drive unit.

⚠ Warning

If the vehicle's tires spin at high speed, they can explode, and you or others could be injured. The vehicle can overheat, causing an engine compartment fire or other damage. Spin the wheels as little as possible and avoid going above 56 km/h (35 mph).

Rocking the Vehicle to Get it Out

Turn the steering wheel left and right to clear the area around the front wheels. Shift back and forth between R (Reverse) and a forward gear, spinning the wheels as little as possible. The Traction Control System prevents the tires from spinning at high speeds. To prevent electric drive unit wear, wait until the wheels stop spinning before shifting gears. Release the accelerator pedal while shifting, and press lightly on the accelerator pedal when the electric drive unit is in gear. Slowly spinning the wheels in the forward and reverse directions causes a rocking motion that could free the vehicle. If that does not get the vehicle out after a few tries, it might need to be towed out. If the vehicle does need to be towed out, see *Towing the Vehicle ⇨ 311*.

Vehicle Load Limits

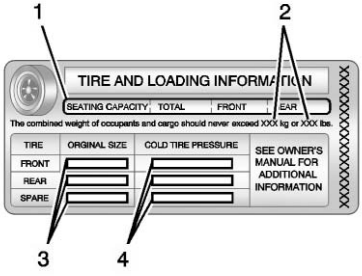
It is very important to know how much weight the vehicle can carry. This weight is called the vehicle capacity weight and includes the weight of all occupants, cargo, and all nonfactory-installed options. Two labels on the vehicle may show how much weight it may properly carry: the Tire and Loading Information label and the Certification label.

⚠ Warning

Do not load the vehicle any heavier than the Gross Vehicle Weight Rating (GVWR), or either the maximum front or rear Gross Axle Weight Rating (GAWR). This can cause systems to break and change the way the vehicle handles. This could cause loss of control and a crash. Overloading can also reduce stopping distance, damage the tires, and shorten the life of the vehicle.

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Tire and Loading Information Label



Label Example

A vehicle-specific Tire and Loading Information label is attached to the vehicle's center pillar (B-pillar). The Tire and Loading Information label shows the number of occupant seating positions (1), and the maximum vehicle capacity weight (2) in kilograms and pounds.

The Tire and Loading Information label also shows the tire size of the original equipment tires (3) and the recommended cold tire inflation pressures (4). For more information on tires and inflation see *Tires* ⇨ *271* and *Tire Pressure* ⇨ *278*.

There is also important loading information on the Certification label. It may show the Gross Vehicle Weight Rating (GVWR) and the Gross Axle Weight Rating (GAWR) for the front and rear axle. See “Certification Label” later in this section.

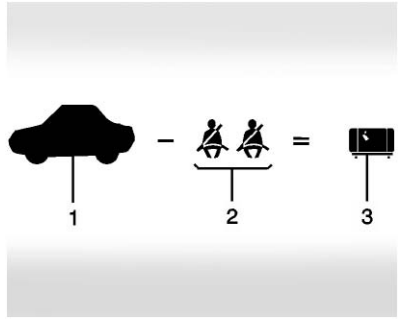
“Steps for Determining Correct Load Limit–

1. Locate the statement "The combined weight of occupants and cargo should never exceed XXX kg or XXX lbs." on your vehicle’s placard.
2. Determine the combined weight of the driver and passengers that will be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXX kg or XXX lbs.
4. The resulting figure equals the available amount of cargo and luggage load capacity. For example, if the "XXX" amount equals 1400 lbs. and there will be five 150 lb passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lbs. (1400-750 (5 x 150) = 650 lbs.)

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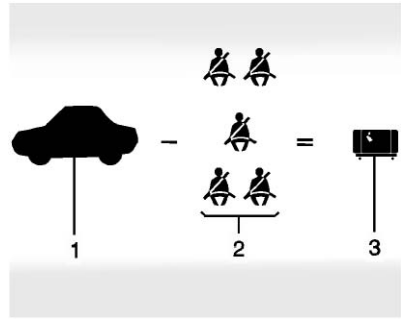
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step 4.
6. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage load capacity of your vehicle."

This vehicle is neither designed nor intended to tow a trailer.



Example 1

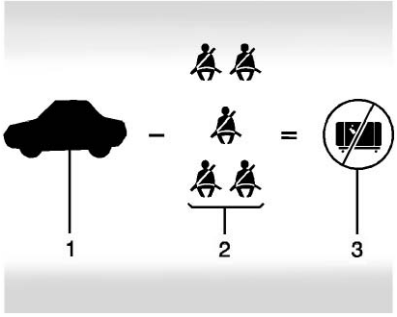
1. Vehicle Capacity Weight for Example 1 = 453 kg (1,000 lbs).
2. Subtract Occupant Weight @ 68 kg (150 lbs) × 2 = 136 kg (300 lbs).
3. Available Occupant and Cargo Weight = 317 kg (700 lbs).



Example 2

1. Vehicle Capacity Weight for Example 2 = 453 kg (1,000 lbs).
2. Subtract Occupant Weight @ 68 kg (150 lbs) × 5 = 340 kg (750 lbs).
3. Available Cargo Weight = 113 kg (250 lbs).

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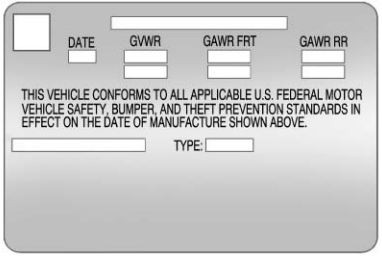


Example 3

1. Vehicle Capacity Weight for Example 3 = 453 kg (1,000 lbs).
2. Subtract Occupant Weight @ 91 kg (200 lbs) × 5 = 453 kg (1,000 lbs).
3. Available Cargo Weight = 0 kg (0 lbs).

Refer to the vehicle's Tire and Loading Information label for specific information about the vehicle's capacity weight and seating positions. The combined weight of the driver, passengers, and cargo should never exceed the vehicle's capacity weight.

Certification Label



Label Example

A vehicle-specific Certification label is attached to the vehicle's center pillar (B-pillar). The label may show the gross weight capacity of the vehicle, called the Gross Vehicle Weight Rating (GVWR). The GVWR includes the weight of the vehicle, all occupants, fuel, and cargo.

⚠ Warning

Things inside the vehicle can strike and injure people in a sudden stop or turn, or in a crash.

- Put things in the cargo area of the vehicle. In the cargo area, put them as far forward as possible. Try to spread the weight evenly.
- Never stack heavier things, like suitcases, inside the vehicle so that some of them are above the tops of the seats.
- Do not leave an unsecured child restraint in the vehicle.
- Secure loose items in the vehicle.
- Do not leave a seat folded down unless needed.

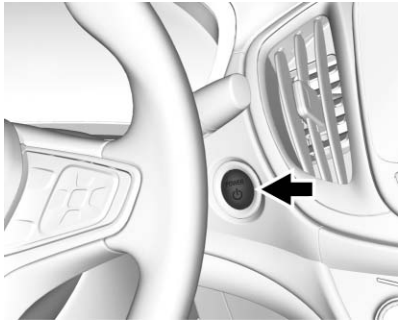
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Starting and Operating

New Vehicle Break-In

The vehicle does not require a break-in period. Vehicle break-in is performed during manufacturing.

Power Button



The vehicle has an electronic pushbutton start. The POWER ⏻ light flashes when the driver door is open and the vehicle is not on. The flashing light will eventually time out. The light is on steady when in ON/RUN power mode. When the vehicle is turned off, the POWER ⏻ light will turn off.

The Remote Keyless Entry (RKE) transmitter must be in the vehicle for the system to operate. If the vehicle will not start, place the RKE transmitter in the transmitter pocket. See *Remote Keyless Entry (RKE) System Operation* ⇨ *30*.

ON/RUN : This position is for starting and driving. With the vehicle off, and the brake pedal applied, pressing POWER ⏻ once will place the vehicle in ON/RUN. When the READY light is on in the instrument cluster, the vehicle is ready to be driven. This could take up to 15 seconds at extremely cold temperatures. See *Vehicle Ready Light* ⇨ *116*. The engine will only start if needed. If the vehicle did not start, the instrument cluster will display a screen with inactive fuel and battery gauges. See *Starting and Stopping the Vehicle* ⇨ *176*.

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Service Only Mode

This power mode is available for service and diagnostics, and to verify the proper operation of the malfunction indicator lamp as may be required for emission inspection purposes. With the vehicle off, and the brake pedal not applied, pressing and holding POWER ⏻ for more than five seconds will place the vehicle in Service Only Mode. The instruments and audio systems will operate as they do in ON/RUN, but the vehicle will not be able to be driven. The propulsion system will not start in Service Only Mode. Press the button again to turn the vehicle off.

Caution
Service Only Mode will discharge the 12-volt battery. Do not use Service Only Mode for an extended period, or the vehicle may not start.

STOPPING THE VEHICLE/OFF : To turn the vehicle off, press POWER ⏻ with the vehicle in P (Park). Retained Accessory Power (RAP) will remain active until the driver door is opened. See *Retained Accessory Power (RAP)* ⇨ *177*. When turning off the vehicle, if the vehicle is not in P (Park), the vehicle will go to ACC/ACCESSORY and display the message SHIFT TO PARK in the Driver Information Center (DIC). See *Electric Drive Unit Messages* ⇨ *134*.

If the vehicle must be shut off in an emergency:

1. Brake using a firm and steady pressure. Do not pump the brakes.
2. Shift the vehicle to N (Neutral). This can be done while the vehicle is moving. After shifting to N (Neutral), firmly apply the brakes and steer the vehicle to a safe location.
3. Come to a complete stop, shift to P (Park), and turn the vehicle off by pressing POWER ⏻.
4. Set the parking brake. See *Electric Parking Brake* ⇨ *188*.

⚠ Warning

Turning off the vehicle while moving may disable the airbags. While driving, only shut the propulsion system off in an emergency.

If the vehicle cannot be pulled over, and must be shut off while driving, press and hold POWER ⏻ for longer than two seconds, or press twice in five seconds.

Starting and Stopping the Vehicle

Computers determine when the engine needs to run. The engine may start, if required, when the propulsion system is on.

Starting Procedure

Move the shift lever to P (Park) or N (Neutral). The propulsion system will not start in any other position.

Caution

Do not try to shift to P (Park) if the vehicle is moving or the electric drive unit could be damaged. Shift to P (Park) only when the vehicle is stopped.

Caution

If you add electrical parts or accessories, you could change the way the vehicle operates. Any resulting damage would not be covered by the vehicle warranty. See *Add-On Electrical Equipment* ⇨ *234*.

The Remote Keyless Entry (RKE) transmitter must be in the vehicle. Press the brake pedal and press and release POWER ⏻.

If the RKE transmitter is not in the vehicle or something is interfering with the transmitter, a message

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displays in the Driver Information Center (DIC). See *Key and Lock Messages* ⇨ *135*.

If the vehicle will not start due to a low RKE transmitter battery, the vehicle can still be driven. See "Starting the Vehicle with a Low Transmitter Battery" in *Remote Keyless Entry (RKE) System Operation* ⇨ *30*.

A Welcome, Ready, and Good-bye audio message will be heard in the vehicle and animated on the instrument cluster when opening the driver door upon entry, when the vehicle is ready to be driven, and when the vehicle is turned off.

The instrument cluster displays an active fuel and/or battery gauge, along with an audio startup cue, when the vehicle is ready to be driven. This could take up to 15 seconds at extremely cold temperatures. The engine will only start if needed. If the vehicle did not start, the instrument cluster will display a screen with inactive fuel and battery gauges. See *Starting and Stopping the Vehicle* ⇨ *176*.

Restarting Procedure

If the vehicle must be restarted while it is still moving, move the shift lever to N (Neutral) and press POWER ⏻ twice without pressing the brake pedal. The propulsion system will not restart in any other position.

Forced Engine On

Some vehicle conditions that force the engine to run:

- There are cold ambient temperatures.
- The hood is open or not completely latched while the vehicle is not in N (Neutral).
- The high voltage battery has a low charge.
- The engine needs to run for maintenance.

See *Maintenance Modes* ⇨ *183*.

A chime will sound if the driver door is opened while the vehicle is in ON/RUN. Always press POWER ⏻ to turn the vehicle off before exiting.

Stopping Procedure

For information on how to turn the vehicle off, see *Power Button* ⇨ *175*.

Retained Accessory Power (RAP)

The following features will operate for up to 10 minutes or until the driver door is opened:

- Audio System
- Accessory Power Outlets

Power windows will operate for up to 10 minutes or until any door is opened.

Shifting Into Park

1. Hold the brake pedal down and set the parking brake. See *Electric Parking Brake* ⇨ *188*.
2. Move the shift lever into P (Park) by pushing the lever all the way toward the front of the vehicle.
3. Turn the vehicle off.

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Leaving the Vehicle with the Propulsion System On

⚠ Warning

It can be dangerous to leave the vehicle with the propulsion system running. It could overheat and catch fire.

It is dangerous to get out of the vehicle if the shift lever is not fully in P (Park) with the parking brake firmly set. The vehicle can roll.

Do not leave the vehicle when the propulsion system is running. If you have left the propulsion system running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground, always set the parking brake and move the shift lever to P (Park). See *Shifting Into Park* ⇨ *177*.

If you have to leave the vehicle with the propulsion system on, be sure the vehicle is in P (Park) and the parking brake is firmly set before you leave it. After you have moved the shift lever into P (Park), hold down the regular brake pedal. See if you can move the shift lever away from P (Park) without first pulling it toward you. If you can, it means that the shift lever was not fully locked into P (Park).

Torque Lock

Torque lock is when the weight of the vehicle puts too much force on the parking pawl in the electric drive unit. This happens when parking on a hill and shifting the electric drive unit into P (Park) is not done properly and then it is difficult to shift out of P (Park). To prevent torque lock, set the parking brake and then shift into P (Park).

If torque lock does occur, your vehicle may need to be pushed uphill by another vehicle to relieve the parking pawl pressure, so you can shift out of P (Park).

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Shifting out of Park

To shift out of P (Park), the vehicle must be in ON/RUN, the brake pedal must be applied, and the charge cord must be unplugged.

The vehicle has an electronic shift lock release system. The shift lock release is designed to:

- Prevent the vehicle from turning off unless the shift lever is in P (Park).
- Prevent moving the shift lever out of P (Park), unless the vehicle is in ON/RUN, the brake pedal is applied, and the charge cord is unplugged.

Parking the vehicle in extreme cold for several days without the charge cord connected may cause the electric drive unit to be locked in P (Park) until the propulsion system has warmed sufficiently.

The shift lock is always functional except in the case of an uncharged or low charged 12-volt battery (less than 9 volts).

If the vehicle has an uncharged 12-volt battery or a 12-volt battery with low voltage, try charging or jump starting the 12-volt battery. See *Battery - North America* ⇨ *256* or *Jump Starting - North America* ⇨ *305*.

If the shift lever cannot be moved out of P (Park):

1. Apply and maintain the regular brakes.
2. Turn the vehicle on using POWER ⏻. See *Power Button* ⇨ *175*.
3. Let up on the shift lever and make sure the shift lever is pushed all the way into P (Park).
4. Press the shift lever button.
5. Move the shift lever into the desired gear.

If you still cannot move the shift lever from P (Park), see your dealer or a professional towing service.

Parking over Things That Burn

⚠ Warning

Things that can burn could touch hot exhaust parts under the vehicle and ignite. Do not park over papers, leaves, dry grass, or other things that can burn.

Electric Vehicle Operating Modes

System Operation

This vehicle is an Extended Range Electric Vehicle (EREV). It uses an electric propulsion system to drive the vehicle at all times. Electricity is the vehicle's primary source of energy, while gasoline is the secondary source.

The vehicle has two modes of operation: Electric and Extended Range. In Electric Mode, the vehicle is propelled by its electric drive unit only. It converts electrical energy into mechanical energy to drive the wheels. In Extended Range Mode, both the battery and the engine power the vehicle. The vehicle's performance remains nearly the same in either mode. See *Driving for Better Energy Efficiency* ⇨ *26*.

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Electric Mode

In Electric Mode, the vehicle does not use fuel or produce tailpipe emissions. During this primary mode, the vehicle is powered by electrical energy stored in the high voltage battery. The vehicle can operate in this mode until the battery has reached a low charge.

There are some conditions when the battery charge is high enough to provide Electric Mode operation, but the engine still runs. They are:

- Cold ambient temperatures.
- Hot or cold high voltage battery temperatures.
- The hood being open or not completely closed and latched.
- Certain high voltage battery fault conditions.
- Engine Maintenance Mode or Fuel Maintenance Mode being run.

Extended Range Mode

When the vehicle reaches the end of its electric range, it switches to Extended Range Mode (ERM). In this secondary mode, electricity is produced by the fuel-powered engine. This secondary source of electric power extends the vehicle range. Operation will continue in ERM until the vehicle can be plugged in to recharge the high voltage battery and restore Electric Mode.

The high voltage battery will continue to provide some power and work together with the engine to provide peak performance when it is required, such as driving up a steep incline or for high acceleration maneuvers. The battery will not be charged nor will electric vehicle range be restored by the engine.

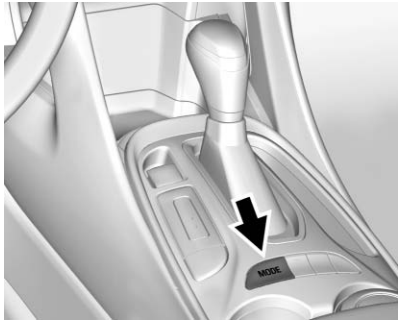
In either Electric Mode or Extended Range Mode, when the hood is open and the vehicle is moving at low speed or stopped, the engine will run without turning off if the vehicle is on, except when the electric drive unit is in N (Neutral). The engine will turn off or remain off at low vehicle speed in N (Neutral). The high voltage battery is not charged when this occurs. Under these conditions, the high voltage battery can still be discharged based on the vehicle loads such as A/C, or 12-volt loads.

In either Electric Mode or Extended Range Mode, if there is a high voltage battery fault, the engine may run without turning off to generate needed electricity. The malfunction indicator lamp will turn on. See *Malfunction Indicator Lamp (Check Engine Light)* ⇨ *109*.

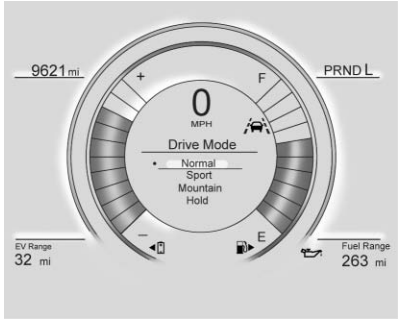
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Driver Selected Operating Modes

While driving in Electric or Extended Range Mode, additional operating modes can be selected.



Press MODE to display selectable drive modes in the Driver Information Center (DIC). Continue pressing to scroll through the modes.



Highlight either the Sport, Mountain, or Hold Mode, then release MODE. After three seconds, the new drive mode will become active.

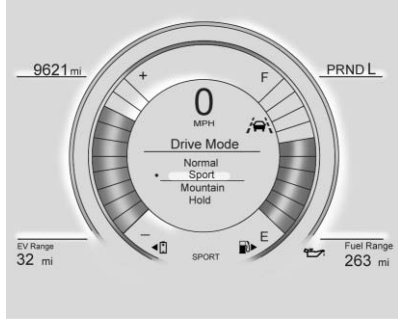
Pressing MODE again will return to Normal Mode, and it will become active after three seconds.

During some conditions, certain drive modes may be unavailable. The unavailable mode is grayed out in the DIC menu and cannot be selected.

If in Sport, Mountain, or Hold Mode, the mode may become unavailable and the vehicle will return to Normal Mode. The indicator light goes off and a DIC message displays. See *Propulsion Power Messages* ⇨ *138*.

The vehicle will stay in Normal Mode at the next restart.

Sport Mode



Sport Mode provides more responsive acceleration than Normal Mode, but can reduce efficiency. Use Normal Mode whenever possible.

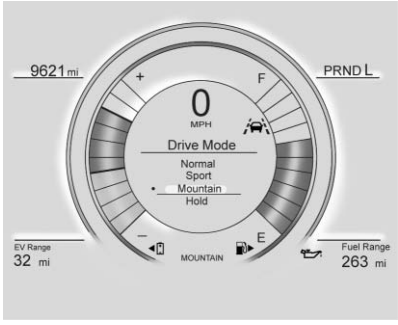
Press MODE to select Sport Mode.

Press MODE again to return to Normal Mode and it becomes active after three seconds.

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Each time the vehicle is started, it will return to Normal Mode.

Mountain Mode



Mountain Mode should be selected at the beginning of a trip before climbing steep, uphill grades and when expecting to drive in very hilly or mountainous terrain. This mode maintains a reserve electrical charge of the high voltage battery to provide better grade climbing performance. While driving in Mountain Mode, the vehicle will have less responsive acceleration.

Mountain Mode will not change normal vehicle braking performance for steep downhill grades. See *Hill and Mountain Roads* ⇨ *169* and *Electric Drive Unit* ⇨ *186*.

Press MODE to select Mountain Mode. If steep hill driving is expected, it is recommended to select Mountain Mode at least 20 minutes before driving on steep grades. This will allow the vehicle time to build a sufficient battery charge reserve.

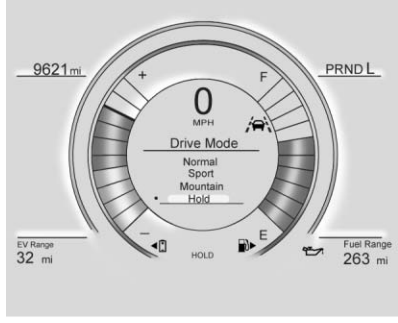
If Mountain Mode is not selected for these conditions, propulsion power may be reduced and the engine speed may increase. See *Propulsion Power Messages* ⇨ *138*.

The engine may run when Mountain Mode is selected, depending on the high voltage battery charge, to build reserve battery charge for uphill climbs. If Mountain Mode is entered with a sufficient battery charge reserve, the battery charge reserve will appear grayed out and any battery charge reserve still unused upon exiting Mountain Mode will return to normal appearance.

Press Mode again to return to Normal Mode and it becomes active after three seconds.

Each time the vehicle is started, it will return to Normal Mode to maintain a smaller battery charge reserve for normal driving.

Hold Mode



Use Hold Mode on a trip where it is expected that all of the electric charge will be depleted. Use Hold Mode mainly during highway or high speed driving to maximize both EV miles and fuel efficiency.

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Hold Mode is only available when the vehicle is in Electric Mode. This mode places the remaining battery charge into a reserve for the driver to use as desired. Selecting this mode transitions the vehicle to Extended Range Mode to maintain the battery charge reserve.

Upon exiting Hold Mode, the reserved battery charge becomes available again and the vehicle returns to Electric Mode. If the transition is from Hold Mode directly to Mountain Mode, the electric range displayed adjusts for the Mountain Mode charge reserve.

Hold Mode will not change normal vehicle acceleration or braking performance.

Press MODE to select Hold Mode.

Press MODE again to return to Normal Mode and it becomes active after three seconds.

Each time the vehicle is started, it will return to Normal Mode.

Out of Fuel/Engine Unavailable

If the vehicle runs out of fuel, or the engine will not start due to a malfunction, the vehicle can continue to be driven in Electric Mode until the current charge is depleted. The vehicle will have less responsive acceleration. DIC messages indicate reduced propulsion power, that the engine is not available, and the need for fuel or service.

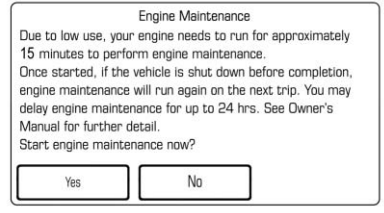
Once the vehicle is refueled, or the malfunction is corrected, the engine will start the next time the vehicle is turned on to perform a self test, and DIC messages will not be displayed. Once the engine starts successfully, normal operation will continue in either Electric or Extended Range Mode. The engine may stop running after the self test is completed, based on the current mode of operation. See *Fuel System Messages* ⇨ *135* and *Service Vehicle Messages* ⇨ *139*.

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Maintenance Modes

Engine Maintenance Mode (EMM)

EMM runs the engine to keep it in good working condition after approximately six weeks of no or very limited engine operation. EMM will force the engine to run, even if there is a charge to power the vehicle.



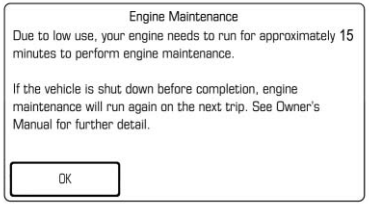
When EMM is needed, the EMM Request screen appears on the center stack display at vehicle start.

If Yes is selected, EMM will begin. The engine will not start until after a short delay once shifted into D (Drive). The engine will run for a set amount of time without turning

off. During EMM, a DIC message displays to show the EMM percentage complete.

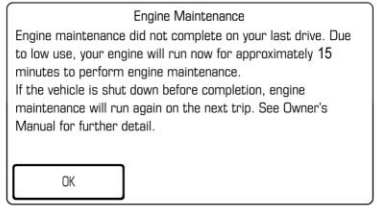
If No is selected, the EMM Request screen will appear when the vehicle is next started. The EMM request can be delayed for up to one day.

If the EMM request was delayed for one day, EMM will automatically start the engine at the next vehicle start. The engine will not start until after a short delay once shifted into D (Drive).



An EMM Notification screen will appear in the center stack display.

If the vehicle is shut off during EMM, it will restart the next time the vehicle is driven.

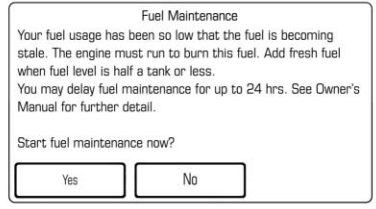


A message displays to indicate that EMM is active.

If EMM is required and the fuel level is low, EMM may eventually empty the fuel tank if fuel is not added. This will result in reduced, or no power. An adequate fuel level must be maintained in the vehicle to keep it operational. See *Propulsion Power Messages* ⇨ *138*.

Fuel Maintenance Mode (FMM)

FMM tracks average fuel age. Old fuel can cause engine problems. If low engine usage causes average fuel age to exceed approximately one year, FMM will run the engine to use up the old fuel. The engine will run until enough fresh fuel is added to bring the average fuel age into an acceptable range. Allowing more old fuel to be used up by FMM and adding a larger amount of fresh fuel will maximize the length of time before another fuel maintenance mode is needed. During FMM the engine may turn on and off.

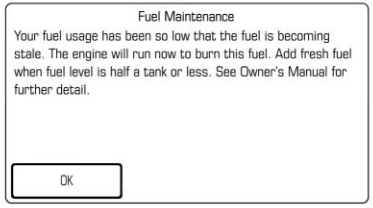


When FMM is needed, the FMM Request screen appears on the center stack display at vehicle start.

If Yes is selected, FMM will begin. The engine will not start until after a short delay once shifted into D (Drive). FMM will automatically continue at each vehicle start until fresh fuel is added.

If No is selected, the FMM Request screen will appear when the vehicle is next started. The FMM request can be delayed for only one day.

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If the FMM request was delayed for one day, FMM will start at the next vehicle start and display the FMM Notification screen on the center stack display. The engine will not start until after a short delay once shifted into D (Drive).

If FMM is required and the fuel level is low, FMM may eventually empty the fuel tank if fuel is not added. This will result in reduced, or no power. An adequate fuel level must be maintained in the vehicle to keep it operational. See *Propulsion Power Messages* ⇨ *138*. After FMM has run it is recommended to fill the fuel tank.

Engine Exhaust

⚠ Warning

Engine exhaust contains carbon monoxide (CO) which cannot be seen or smelled. Exposure to CO can cause unconsciousness and even death.

Exhaust may enter the vehicle if:

- The engine is running in Extended Range Mode in areas with poor ventilation (parking garages, tunnels, or deep snow that may block underbody airflow or tail pipes).
- The exhaust smells or sounds strange or different.
- The exhaust system leaks due to corrosion or damage.
- The vehicle exhaust system has been modified, damaged, or improperly repaired.

(Continued)

Warning (Continued)

- There are holes or openings in the vehicle body from damage or aftermarket modifications that are not completely sealed.

If unusual fumes are detected or if it is suspected that exhaust is coming into the vehicle:

- Drive it only with the windows completely down.
- Have the vehicle repaired immediately.

Never park with the engine running in Extended Range Mode in an enclosed area such as a garage or a building that has no fresh air ventilation.

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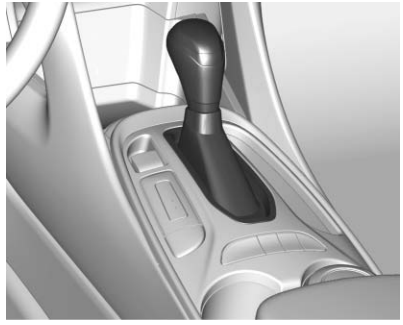
Running the Vehicle While Parked

It is better not to park with the propulsion system running.

If the vehicle is left with the propulsion system running, follow the proper steps to be sure the vehicle will not move. See *Shifting Into Park* ⇨ *177* and *Engine Exhaust* ⇨ *185*.

Electric Drive Unit

The vehicle uses an electric drive unit.



P : This position locks the front wheels. It is the best position to use when starting the propulsion system because the vehicle cannot move easily.

⚠ Warning

It is dangerous to get out of the vehicle if the shift lever is not fully in P (Park) with the parking brake firmly set. The vehicle can roll.

Do not leave the vehicle when the propulsion system is running. If you have left the propulsion system running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground, always set the parking brake and move the shift lever to P (Park). See *Shifting Into Park* ⇨ *177*.

Make sure the shift lever is fully in P (Park) before starting the propulsion system. The vehicle has an electric drive unit shift lock control system. The regular brake must be fully applied first and then the shift lever button pressed before shifting from P (Park) when the vehicle is in ON/RUN. If you cannot shift out of P (Park), ease pressure

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on the shift lever, then push the shift lever all the way into P (Park) as you maintain brake application. Then press the shift lever button and move the shift lever into another gear. See *Shifting out of Park* ⇨ *178*.

R : Use this gear to back up.

Caution
Shifting to R (Reverse) while the vehicle is moving forward could damage the electric drive unit. The repairs would not be covered by the vehicle warranty. Shift to R (Reverse) only after the vehicle is stopped.

To rock the vehicle back and forth to get out of snow, ice, or sand without damaging the electric drive unit, see *If the Vehicle Is Stuck* ⇨ *171*.

N : In this position, the propulsion system does not provide power to the wheels. The high voltage battery is neither charged or discharged when in N (Neutral) at low vehicle speeds.

D : This position is for normal driving. It provides the best fuel economy. If more power is needed for passing, press the accelerator pedal to gain the desired acceleration

Caution
If the vehicle seems to accelerate slowly or not respond when you go faster, and you continue to drive the vehicle that way, you could damage the electric drive unit. Have the vehicle serviced right away.

L : This position reduces vehicle speed without using the brakes. Use L (Low) on very steep hills, in deep snow, in mud, or in stop-and-go traffic.

Caution
Spinning the tires or holding the vehicle in one place on a hill using only the accelerator pedal may damage the electric drive unit. The repair will not be covered by the vehicle warranty. If you are stuck, do not spin the tires. When stopping on a hill, use the brakes to hold the vehicle in place.

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Brakes

Antilock Brake System (ABS)

This vehicle has ABS, an advanced electronic braking system that helps prevent a braking skid.

When propulsion is active and the vehicle begins to drive away, ABS checks itself. A momentary motor or clicking noise might be heard while this test is going on, and it might even be noticed that the brake pedal moves a little. This is normal.



If there is a problem with ABS, this warning light stays on. See *Antilock Brake System (ABS) Warning Light* ⇨ *112*.

If driving safely on a wet road and it becomes necessary to slam on the brakes and continue braking to avoid a sudden obstacle, a computer senses that the wheels are slowing down. If one of the wheels is about to stop rolling, the computer will separately work the brakes at each wheel.

ABS can change the brake pressure to each wheel, as required, faster than any driver could. This can help the driver steer around the obstacle while braking hard.

As the brakes are applied, the computer keeps receiving updates on wheel speed and controls braking pressure accordingly.

Remember: ABS does not change the time needed to get a foot up to the brake pedal or always decrease stopping distance. If you get too close to the vehicle in front of you, there will not be enough time to apply the brakes if that vehicle suddenly slows or stops. Always leave enough room up ahead to stop, even with ABS.

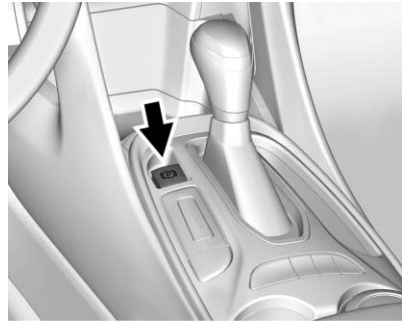
Using ABS

Do not pump the brakes. Just hold the brake pedal down firmly and let ABS work. You might hear the ABS pump or motor operating and feel the brake pedal pulsate, but this is normal.

Braking in Emergencies

ABS allows the driver to steer and brake at the same time. In many emergencies, steering can help more than even the very best braking.

Electric Parking Brake



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The vehicle has an Electric Parking Brake (EPB). The EPB can always be activated, even if the vehicle is off.

The system has a red parking brake status light and an amber parking brake warning light. See *Electric Parking Brake Light* ⇨ *111* and *Service Electric Parking Brake Light* ⇨ *112*. There are also parking brake-related Driver Information Center (DIC) messages. See *Brake System Messages* ⇨ *133*. In case of insufficient electrical power, the EPB cannot be applied or released.

Before leaving the vehicle, check the red parking brake status light to ensure that the parking brake is applied.

EPB Apply

To apply the EPB:

1. Be sure the vehicle is at a complete stop.
2. Pull the EPB switch momentarily.

The red parking brake status light will flash and then stay on once the EPB is fully applied. If the red parking brake status light flashes continuously, then the EPB is only partially applied or there is a problem with the EPB. A DIC message will display. Release the EPB and try to apply it again. If the light does not come on, or keeps flashing, have the vehicle serviced. Do not drive the vehicle if the red parking brake status light is flashing. See your dealer. See *Electric Parking Brake Light* ⇨ *111*.

If the amber parking brake warning light is on, lift up on the EPB switch and hold it up. Continue to hold the switch until the red parking brake status light remains on. If the amber parking brake warning light is on, see your dealer.

If the EPB is applied while the vehicle is moving, the vehicle will decelerate as long as the switch is held up. If the switch is held up until the vehicle comes to a stop, the EPB will remain applied.

The vehicle may automatically apply the EPB in some situations when the vehicle is not moving. This is normal, and is done to periodically check the correct operation of the EPB system.

If the EPB fails to apply, the rear wheels should be blocked to prevent vehicle movement.

EPB Release

To release the EPB:

1. Place the vehicle in ON/RUN.
2. Apply and hold the brake pedal.
3. Push momentarily on the EPB switch.

The EPB is released when the red parking brake status light is off.

If the amber parking brake warning light is on, release the EPB by pushing down on the EPB switch and holding it down. Continue to hold the switch until the red parking brake status light is off. If either light stays on after release is attempted, see your dealer.

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Caution

Driving with the parking brake on can overheat the brake system and cause premature wear or damage to brake system parts. Make sure that the parking brake is fully released and the brake warning light is off before driving.

Automatic EPB Release

The EPB will automatically release if the vehicle is running, placed into gear, and an attempt is made to drive away. Avoid rapid acceleration when the EPB is applied, to preserve parking brake lining life.

Hill Start Assist (HSA)

The HSA feature will activate when the vehicle is stopped on a moderate to steep grade to help prevent it from rolling in an unintended direction. After the brake pedal has been released and before the accelerator pedal has been pressed, HSA uses braking pressure to hold the vehicle stationary. If HSA is holding the vehicle, a DIC message displays. HSA will not activate in a forward drive gear when facing downhill, or in R (Reverse) when facing uphill.

Extended Hill Start Assist (EHSA)

Select the duration of the HSA feature on the center stack touchscreen by choosing the submenu for Hill Start Assist or Extended Hill Start Assist (EHSA). See “Extended Hill Start Assist" under “Comfort and Convenience” in *Vehicle Personalization* ⇨ *141*. When Standard Hold is selected, the vehicle is held stationary for up to two seconds after the brake pedal is released. When Extended Hold is selected, the vehicle is held stationary for up to five minutes after the brake pedal is released. In either case, override the hold feature by pressing the accelerator pedal and attempting to drive away.

If Hill Start Assist is selected in the Settings menu, it will hold the vehicle for two seconds unless the driver door is opened or the driver safety belt is unbuckled after releasing the brake pedal.
If Extended Hill Start Assist is selected, it will hold the vehicle for five minutes unless the driver door is opened and the driver safety belt is unbuckled prior to releasing the brake pedal. When EHSA is deactivated after five minutes, or if it is deactivated when the driver safety belt is unlatched or the driver door is opened, the Electric Parking Brake will engage to prevent vehicle movement.

Regenerative Braking

Some braking energy from the moving vehicle is turned back into electrical energy. This energy is then stored back into the high voltage battery system, increasing energy efficiency.

The hydraulic disc brakes work with the regenerative braking to ensure effective braking, such as when a high braking demand is requested.

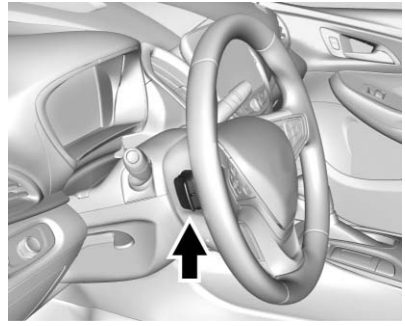
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The controller interprets the braking request and uses regenerative braking, conventional hydraulic braking, or a combination of both as necessary.

The brake controller applies the hydraulic brakes using a pump. The pump may be heard during some braking, such as rapid applies. This is normal.

See *Warning Lights, Gauges, and Indicators* ⇨ *101* and *Driver Information Center (DIC)* ⇨ *130*. If there is a controller problem, the brake pedal may be harder to push and the stopping distance may be longer.

Regen on Demand®



Regen on Demand allows increased deceleration by pressing and holding the steering wheel paddle. It works in D (Drive) and L (Low). The accelerator pedal must be fully released for it to work.

The brake pedal must be applied at low speed, because Regen on Demand will not bring the car to a full stop.

Cruise control will turn off, and the brake lights may come on, when this feature is activated.

The brake controller applies the hydraulic brakes using a pump. You may hear the pump during some braking maneuvers, such as rapid brake applies or while replacing any regenerative brake torque as the vehicle comes to a stop. This is normal operation.

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Ride Control Systems

Traction Control/ Electronic Stability Control

The vehicle has a Traction Control System (TCS) and an Electronic Stability Control system called StabiliTrak. These systems help limit wheel slip and assist the driver in maintaining control, especially on slippery road conditions.

TCS activates if it senses that any of the drive wheels are slipping or beginning to lose traction. When this happens, TCS applies the brakes to the spinning wheels and reduces engine power to limit wheel spin.

StabiliTrak activates when the vehicle senses a difference between the intended path and the direction the vehicle is actually traveling. StabiliTrak selectively applies braking pressure to any of the vehicle wheel brakes to help assist the driver in keeping the vehicle on the intended path.

If cruise control is being used and traction control or StabiliTrak begins to limit wheel spin, cruise control will disengage. Cruise control may be turned back on when road conditions allow.

Both systems come on automatically when the vehicle is started and begins to move. The systems may be heard or felt while they are operating or while performing diagnostic checks. This is normal and does not mean there is a problem with the vehicle.

It is recommended to leave both systems on for normal driving conditions, but it may be necessary to turn TCS off if the vehicle gets stuck in sand, mud, ice, or snow. See *If the Vehicle Is Stuck* ⇨ *171* and “Turning the Systems Off and On” later in this section.



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The indicator light for both systems is in the instrument cluster. This light will:

- Flash when TCS is limiting wheel spin.
- Flash when StabiliTrak is activated.
- Turn on and stay on when either system is not working.

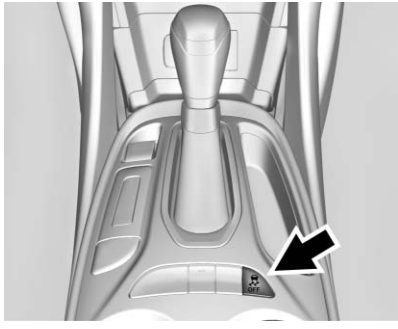
If either system fails to turn on or to activate, a message displays in the Driver Information Center (DIC), and comes on and stays on to indicate that the system is inactive and is not assisting the driver in maintaining control. The vehicle is safe to drive, but driving should be adjusted accordingly.

If comes on and stays on:

1. Stop the vehicle.
2. Turn the engine off and wait 15 seconds.
3. Start the engine.

Drive the vehicle. If comes on and stays on, the vehicle may need more time to diagnose the problem. If the condition persists, see your dealer.

Turning the Systems Off and On



Caution
Do not repeatedly brake or accelerate heavily when TCS is off. The vehicle driveline could be damaged.

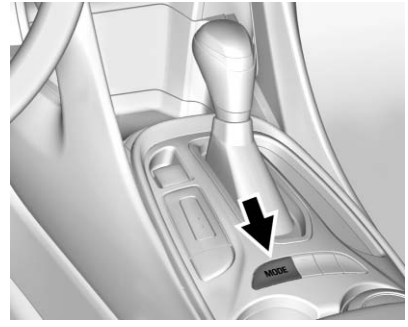
To turn off only TCS, press and release . The Traction Off light displays in the instrument cluster. The appropriate DIC message is displayed. See *Ride Control System Messages* ⇨ *138*. To turn TCS on again, press and release . The Traction Off light displayed in the instrument cluster will turn off.

To turn off both TCS and StabiliTrak, press and hold until the Traction Off light and StabiliTrak Off light come on and stay on in the instrument cluster. The appropriate DIC message is displayed. See *Ride Control System Messages* ⇨ *138*. To turn TCS and StabiliTrak on again, press and release . The Traction Off light and StabiliTrak Off light in the instrument cluster turn off.

Adding accessories can affect the vehicle performance. See *Accessories and Modifications* ⇨ *237*.

Driver Mode Control

There are four operating modes that can be selected while driving in Electric or Extended Range Mode. The four modes are Normal, Sport, Mountain, and Hold.



Pressing MODE will display the selectable drive modes in the Driver Information Center (DIC). See *Driver Selected Operating Modes* ⇨ *181* for information on mode operation.

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Cruise Control

The cruise control lets the vehicle maintain a speed of about 40 km/h (25 mph) or more without keeping your foot on the accelerator. Cruise control does not work at speeds below 40 km/h (25 mph).

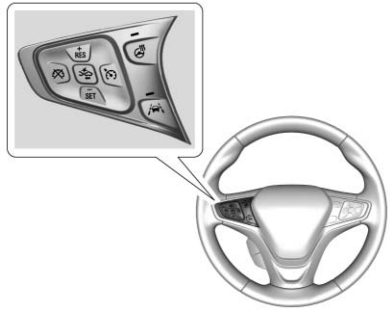
⚠ Warning

Cruise control can be dangerous where you cannot drive safely at a steady speed. Do not use cruise control on winding roads or in heavy traffic.

Cruise control can be dangerous on slippery roads. On such roads, fast changes in tire traction can cause excessive wheel slip, and you could lose control. Do not use cruise control on slippery roads.

With the Traction Control System (TCS) or Electronic Stability Control (ESC), the system may begin to limit wheel spin while you are using cruise control. If this happens, the cruise control will automatically disengage. See *Traction Control/ Electronic Stability Control* ⇨ *192*. If a collision alert occurs when cruise control is activated, cruise control is disengaged. See *Forward Collision Alert (FCA) System* ⇨ *208*. When road conditions allow you to safely use it again, cruise control can be turned back on.

If the brakes or the Regen on Demand paddle are applied, cruise control disengages.



: Press to turn the cruise control system on and off. A white indicator comes on in the instrument cluster when cruise is turned on.

: Press to disengage cruise control without erasing the set speed from memory.

+RES : If there is a set speed in memory, press briefly to resume that speed or press and hold to accelerate. If cruise control is already active, use to increase vehicle speed.

−SET : Press briefly to set the speed and activate cruise control. If cruise control is already active, use to decrease vehicle speed.

Setting Cruise Control

If is on when not in use, -SET or +RES could get bumped and go into cruise when not desired. Keep off when cruise is not being used.

To set a speed:

1. Press to turn the cruise system on.
2. Get up to the desired speed.
3. Press and release -SET. The desired set speed briefly appears in the instrument cluster.

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4. Remove foot from the accelerator pedal.

The cruise control indicator on the instrument cluster turns green after cruise control has been set to the desired speed. See *Instrument Cluster* ⇨ *101*.

Resuming a Set Speed

If the cruise control is set at a desired speed and then the brakes are applied or is pressed, the cruise control is disengaged without erasing the set speed from memory.

Once the vehicle speed reaches about 40 km/h (25 mph) or more, briefly press +RES. The vehicle returns to the previous set speed.

Increasing Speed While Using Cruise Control

If the cruise control system is already activated:

- Press and hold +RES on the steering wheel until the vehicle accelerates to the desired speed, then release it.
- To increase the speed in small increments, briefly press +RES. For each press, the vehicle goes about 1 km/h (1 mph) faster.

The speedometer reading can be displayed in either English or metric units. See *Instrument Cluster* ⇨ *101*. The increment value used depends on the units displayed.

Reducing Speed While Using Cruise Control

If the cruise control system is already activated:

- Press and hold -SET until the desired lower speed is reached, then release it.
- To slow down in small increments, briefly press -SET. For each press, the vehicle goes about 1 km/h (1 mph) slower.

The speedometer reading can be displayed in either English or metric units. See *Instrument Cluster* ⇨ *101*. The increment value used depends on the units displayed.

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Passing Another Vehicle While Using Cruise Control

Use the accelerator pedal to increase the vehicle speed. When you take your foot off the pedal, the vehicle will slow down to the previous set cruise speed. While pressing the accelerator pedal or shortly following the release to override cruise control, briefly pressing -SET will result in cruise control set to the current vehicle speed.

Using Cruise Control on Hills

How well the cruise control works on hills depends upon the vehicle speed, load, and the steepness of the hills. When going up steep hills, you might have to step on the accelerator pedal to maintain the vehicle speed. When going downhill, you might have to brake or shift to a lower gear to keep your speed down.

If a lower gear is being used while going downhill, this causes the vehicle to have improved control of vehicle speed by using a combination of engine and

regenerative braking depending on vehicle conditions. At times you might have to apply the brakes to keep your speed down. If the brake pedal is applied, cruise control will disengage.

Ending Cruise Control

There are five ways to end cruise control:

- Step lightly on the brake pedal.
- Press ⊗.
- Shift the electric drive unit to N (Neutral).
- Press ⏲ to turn the cruise control system off completely.
- Press the Regen on Demand paddles.

Erasing Speed Memory

The cruise control set speed is erased from memory if ⏲ is pressed or if the vehicle is turned off.

Adaptive Cruise Control

If equipped with Adaptive Cruise Control (ACC), it allows you to select the cruise control set speed and following gap. Read this entire section before using this system. The following gap is the following time between your vehicle and a vehicle detected directly ahead in your path moving in the same direction. If no vehicle is detected in your path, ACC works like regular cruise control. ACC uses camera and radar sensors. See *Radio Frequency Statement* ⇨ *351*.

If a vehicle is detected in your path, ACC can apply acceleration or limited, moderate braking to maintain the selected following gap. To disengage ACC, apply the brake. If ACC is controlling your vehicle speed when the Traction Control System (TCS) or StabiliTrak system activates, the ACC may automatically disengage. See *Traction Control/Electronic Stability Control* ⇨ *192*. When road conditions allow ACC to be safely used, the ACC can be turned back on.

ACC will not engage if the TCS or StabiliTrak system is disabled.

⚠ Warning

ACC has limited braking ability and may not have time to slow the vehicle down enough to avoid a collision with another vehicle you are following. This can occur when vehicles suddenly slow or stop ahead, or enter your lane. Also see “Alerting the Driver” in this section. Complete attention is always required while driving and you should be ready to take action and apply the brakes. See *Defensive Driving* ⇨ *166*.

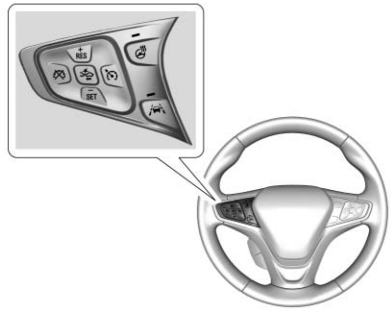
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⚠ Warning

ACC will not detect or brake for children, pedestrians, animals, or other objects.

Do not use ACC when:

- On winding and hilly roads or when the sensors are blocked by snow, ice, or dirt. The system may not detect a vehicle ahead. Keep the entire front of the vehicle clean.
- Visibility is low, such as in fog, rain, or snow conditions. ACC performance is limited under these conditions.
- On slippery roads where fast changes in tire traction can cause excessive wheel slip.



: Press to turn the system on or off. A white cruise control indicator comes on in the instrument cluster.

+RES : Press briefly to resume the previous set speed or to increase vehicle speed if ACC is already activated. To increase speed by 1 km/h (1 mph), briefly press +RES. To increase speed to the next 5 km/h (5 mph) mark on the speedometer, press and hold +RES, then release.

−SET : Press briefly to set the speed and activate ACC or to decrease vehicle speed if ACC is already activated. To decrease speed by 1 km/h (1 mph), briefly press SET−. To decrease speed to the next 5 km/h (5 mph) mark on the speedometer, press and hold SET−, then release.

: Press to disengage ACC without erasing the set speed from memory.

: Press to select a following gap time (or distance) setting for ACC of Far, Medium, or Near.

Setting Adaptive Cruise Control

If ACC is on when not in use, could get pressed and ACC could become active when not desired. Keep ACC off when it is not being used.

Select the set speed desired for cruise. This is the vehicle speed when no vehicle is detected in its path.

ACC will not set at a speed less than 25 km/h (15 MPH), although it can be resumed when driving at lower speeds.

DEP DEALER E-PROCESS

To set ACC:

1. Press .
2. Get up to the desired speed.
3. Press and release -SET.
4. Remove your foot from the accelerator.

After ACC is set, it may immediately apply the brakes if a vehicle ahead is detected closer than the selected following gap.



The ACC indicator displays in the instrument cluster. When the ACC is active, the indicator turns green.

Be mindful of speed limits, surrounding traffic speeds, and weather conditions when selecting the set speed.

Resuming a Set Speed

If the ACC is set at a desired speed and then the brakes are applied, the ACC is disengaged without erasing the set speed from memory.

To begin using ACC again, briefly press +RES. The vehicle returns to the previous set speed.

Increasing Speed While ACC is at a Set Speed

If ACC is already activated, do one of the following:

- Use the accelerator to get to the higher speed. Press -SET. Release the control and the accelerator pedal. The vehicle will now cruise at the higher speed.

 When the accelerator pedal is pressed, ACC will not brake because it is overridden. A warning message will appear on the Driver Information Center (DIC). See *Cruise Control Messages* ⇨ *133*.

- Press and hold +RES until the desired set speed appears on the display, then release it.
- To increase vehicle speed in small increments, briefly press +RES. For each press, the vehicle goes 1 km/h or (1 mph) faster.
- To increase vehicle speed in larger increments, press and hold +RES, then release. For each press, the vehicle goes 5km/h or (5 mph) faster.

When it is determined that there is no vehicle ahead inside the selected following gap, then the vehicle speed will increase to the set speed.

Reducing Speed While ACC is at a Set Speed

If ACC is already activated, do one of the following:

- Use the brake to get to the desired lower speed. Press -SET and release the accelerator pedal. The vehicle will now cruise at the lower speed.

DEP
DEALER E-PROCESS

- Press and hold -SET until the desired lower speed is reached, then release it.
- To decrease the vehicle speed in smaller increments, briefly press -SET. For each press, the vehicle goes about 1 km/h or (1 mph) slower.
- To decrease the vehicle speed in larger increments, press and hold -SET, then release. For each press, the vehicle goes about 5 km/h or (5 mph) slower.

Selecting the Follow Distance

When a slower moving vehicle is detected ahead within the selected following gap, ACC will adjust the vehicle's speed and attempt to maintain the follow distance gap selected.

Press on the steering wheel to adjust the following gap. When pressed, the current gap setting displays briefly on the instrument cluster. Subsequent presses cycle the gap button through three settings: Far, Medium, or Near. The gap setting will be maintained until it is changed.

Since each gap setting corresponds to a following time (Far, Medium, or Near), the following distance will vary based on vehicle speed. The faster the vehicle speed, the further back your vehicle will follow a vehicle detected ahead. Consider traffic and weather conditions when selecting the following gap. The range of selectable gaps may not be appropriate for all drivers and driving conditions.

Changing the gap setting automatically changes the alert timing sensitivity (Far, Medium, or Near) for the Forward Collision Alert (FCA) feature. See *Forward Collision Alert (FCA) System* ⇨ *208*.

Alerting the Driver



If ACC is engaged, driver action may be required when ACC cannot apply sufficient braking because of approaching a vehicle too rapidly.

When this condition occurs, eight beeps will sound from the front.

See *Defensive Driving* ⇨ *166*.

Approaching and Following a Vehicle



The vehicle ahead indicator is in the instrument cluster.

The vehicle ahead symbol only displays when a vehicle is detected in your vehicle’s path moving in the same direction.

If this symbol is not displaying, ACC will not respond to or brake to vehicles ahead.

ACC automatically slows the vehicle down and adjusts vehicle speed to follow the vehicle in front at the

DEP DEALER E-PROCESS

selected following gap. The vehicle speed increases or decreases to follow the vehicle in front of you, but will not exceed the set speed. It may apply limited braking, if necessary. When braking is active, the brake lamps will come on. The automatic braking may feel or sound different than if the brakes were applied manually. This is normal.

Stationary or Very Slow-Moving Objects

⚠ Warning

Adaptive Cruise Control (ACC) may not detect and react to stopped or slow-moving vehicles ahead of you. For example, the system may not brake for a vehicle it has never detected moving. This can occur in stop-and-go traffic or when a vehicle suddenly appears due to a vehicle ahead changing lanes. Your vehicle may not stop and could cause a crash. Use caution when using ACC. Your complete

(Continued)

Warning (Continued)

attention is always required while driving and you should be ready to take action and apply the brakes.

ACC Automatically Disengages

ACC may automatically disengage and the driver will need to manually apply the brakes to slow the vehicle when:

- The sensors are blocked.
- The Traction Control System (TCS) or StabiliTrak system has activated or been disabled.
- No traffic or other objects are being detected.
- There is a fault in the system.

The ACC active indicator will not be displayed when ACC is no longer active.

Notification to Resume ACC

ACC will maintain a following gap behind a detected vehicle and slow your vehicle to a stop behind that vehicle.

If the stopped vehicle ahead has driven away and ACC has not resumed, the vehicle ahead indicator will flash as a reminder to check traffic before proceeding. In addition, three beeps will sound. See “Go Notifier” in “Collision/ Detection Systems” under *Vehicle Personalization* ⇨ *141*.

When the vehicle ahead drives away, press +RES or the accelerator pedal to resume ACC. If stopped for more than two minutes or if the driver door is opened and the driver safety belt is unbuckled, the ACC automatically applies the Electric Parking Brake (EPB) to hold the vehicle. The Electric Parking Brake status light will turn on. See *Electric Parking Brake* ⇨ *188*. To release the EPB, press the accelerator pedal.

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A DIC warning message may display indicating to shift to P (Park) before exiting the vehicle. See *Cruise Control Messages* ⇨ *133*.

⚠ Warning

If ACC has stopped the vehicle, and if ACC is disengaged, turned off, or canceled, the vehicle will no longer be held at a stop. The vehicle can move. When ACC is holding the vehicle at a stop, always be prepared to manually apply the brakes.

⚠ Warning

Leaving the vehicle without placing it in P (Park) can be dangerous. Do not leave the vehicle while it is being held at a stop by ACC. Always place the vehicle in P (Park) and turn off the ignition before leaving the vehicle.

ACC Override

If using the accelerator pedal while ACC is active, a warning message on the DIC will indicate that automatic braking will not occur. See *Cruise Control Messages* ⇨ *133*. ACC will resume operation when the accelerator pedal is not being pressed.

⚠ Warning

The ACC will not automatically apply the brakes if your foot is resting on the accelerator pedal. You could crash into a vehicle ahead of you.

Curves in the Road

⚠ Warning

On curves, ACC may not detect a vehicle ahead in your lane. You could be startled if the vehicle accelerates up to the set speed, especially when following a

(Continued)

Warning (Continued)

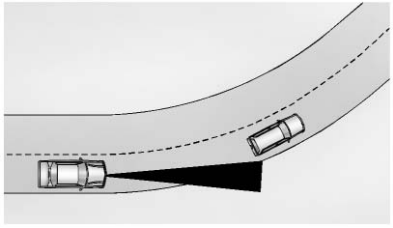
vehicle exiting or entering exit ramps. You could lose control of the vehicle or crash. Do not use ACC while driving on an entrance or exit ramp. Always be ready to use the brakes if necessary.

⚠ Warning

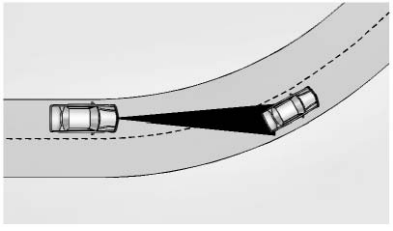
On curves, ACC may respond to a vehicle in another lane, or may not have time to react to a vehicle in your lane. You could crash into a vehicle ahead of you, or lose control of your vehicle. Give extra attention in curves and be ready to use the brakes if necessary. Select an appropriate speed while driving in curves.

ACC may operate differently in a sharp curve. It may reduce the vehicle speed if the curve is too sharp.

DEP DEALER E-PROCESS



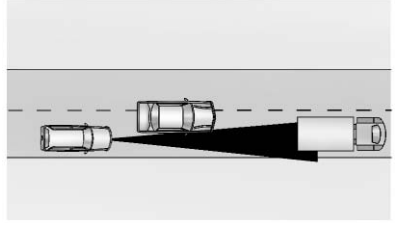
When following a vehicle and entering a curve, ACC may not detect the vehicle ahead and accelerate to the set speed. When this happens the vehicle ahead indicator will not appear.



ACC may detect a vehicle that is not in your lane and apply the brakes.

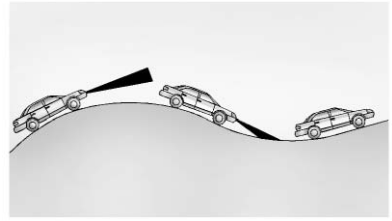
ACC may occasionally provide an alert and/or braking that is considered unnecessary. It could respond to vehicles in different lanes, signs, guardrails, and other stationary objects when entering or exiting a curve. This is normal operation. The vehicle does not need service.

Other Vehicle Lane Changes



ACC will not detect a vehicle ahead until it is completely in the lane. The brake may need to be manually applied.

Do Not Use ACC on Hills and When Towing a Trailer



Do not use ACC when driving on steep hills or when towing a trailer. ACC will not detect a vehicle in the lane while driving on steep hills. The driver will often need to take over acceleration and braking on steep hills, especially when towing a trailer. If the brakes are applied, the ACC disengages.

Ending ACC

There are four ways to end ACC:

- Step lightly on the brake pedal.
- Press .
- Press .

DEP DEALER E-PROCESS

- Press the Regen on Demand paddle.

Erasing Speed Memory

The cruise control set speed is erased from memory if is pressed or if the ignition is turned off.

Cleaning the Sensing System

The camera sensor on the windshield ahead of the rearview mirror and the radar sensors on the front of the vehicle can become blocked by snow, ice, dirt, or mud. These areas need to be cleaned for ACC to operate properly.

For cleaning instructions, see "Washing the Vehicle" under *Exterior Care* ⇨ *314*.

System operation may also be limited under snow, heavy rain, or road spray conditions.

Driver Assistance Systems

This vehicle may have features that work together to help avoid crashes or reduce crash damage while driving, backing, and parking. Read this entire section before using these systems.

⚠ Warning

Do not rely on the Driver Assistance Systems. These systems do not replace the need for paying attention and driving safely. You may not hear or see alerts or warnings provided by these systems. Failure to use proper care when driving may result in injury, death, or vehicle damage. See *Defensive Driving* ⇨ *166*.

(Continued)

Warning (Continued)

Under many conditions, these systems will not:

- Detect children, pedestrians, bicyclists, or animals.
- Detect vehicles or objects outside the area monitored by the system.
- Work at all driving speeds.
- Warn you or provide you with enough time to avoid a crash.
- Work under poor visibility or bad weather conditions.
- Work if the detection sensor is not cleaned or is covered by ice, snow, mud, or dirt.

Complete attention is always required while driving, and you should be ready to take action and apply the brakes and/or steer the vehicle to avoid crashes.

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Audible Alert

Some driver assistance features alert the driver of obstacles by beeping. To change the volume of the warning chime, see “Comfort and Convenience” under *Vehicle Personalization* ⇨ *141*.

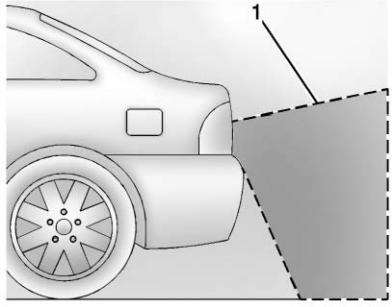
Assistance Systems for Parking or Backing

If equipped, the Rear Vision Camera (RVC), Rear Parking Assist (RPA), Front Parking Assist (FPA), Rear Cross Traffic Alert (RCTA), and Automatic Parking Assist (APA) may help the driver park or avoid objects. Always check around the vehicle when parking or backing.

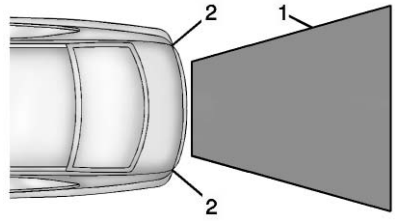
Rear Vision Camera (RVC)

When the vehicle is shifted into R (Reverse), the RVC displays an image of the area behind the vehicle in the center stack display. The previous screen displays when the vehicle is shifted out of R (Reverse) after a short delay. To return to the previous screen sooner, press a button on the infotainment system, shift into P (Park), or reach a vehicle speed of 8 km/h (5 mph).

Press MENU to adjust the display brightness while viewing the rear camera display.



1. View Displayed by the Camera



1. View Displayed by the Camera
2. Corners of the Rear Bumper

Displayed images may be farther or closer than they appear. The area displayed is limited and objects that are close to either corner of the bumper or under the bumper do not display.

A warning triangle may display on the RVC screen to show that RPA has detected an object. This triangle changes from amber to red and increases in size the closer the object.

DEP
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⚠ Warning

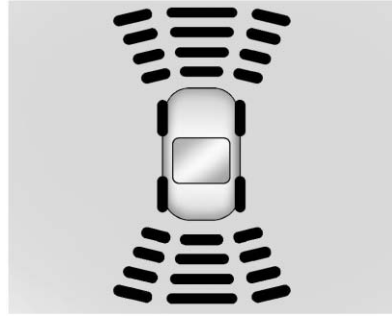
The camera(s) do not display children, pedestrians, bicyclists, crossing traffic, animals, or any other object outside of the cameras' field of view, below the bumper, or under the vehicle. Shown distances may be different from actual distances. Do not drive or park the vehicle using only these camera(s). Always check behind and around the vehicle before driving. Failure to use proper care may result in injury, death, or vehicle damage.

Parking Assist

With RPA, and if equipped with FPA, as the vehicle moves at speeds of less than 8 km/h (5 mph) the sensors on the bumpers may detect objects up to 1.8 m (6 ft) behind the vehicle and 1.2 m (4 ft) in front of the vehicle within a zone 25 cm (10 in) high off the ground and below bumper level. These detection distances may be shorter during warmer or humid weather. Blocked sensors will not detect objects and can also cause false detections. Keep the sensors clean of mud, dirt, snow, ice, and slush; and clean sensors after a car wash in freezing temperatures.

⚠ Warning

The Parking Assist system does not detect children, pedestrians, bicyclists, animals, or objects located below the bumper or that are too close or too far from the vehicle. It is not available at speeds greater than 8 km/h (5 mph). To prevent injury, death, or vehicle damage, even with parking assist, always check the area around the vehicle and check all mirrors before moving forward or backing.



The instrument cluster may have a parking assist display with bars that show "distance to object" and object location information for RPA, and on some vehicles, FPA. As the object gets closer, more bars light up and the bars change color from yellow to amber to red.

When an object is first detected in the rear, one beep will be heard from the rear. When an object is very close (<0.6 m (2 ft) in the vehicle rear, or <0.3 m (1 ft) in the vehicle front), five beeps will sound from the front or rear depending on object location. Beeps for FPA are higher pitched than for RPA.

DEP DEALER E-PROCESS

Rear Cross Traffic Alert (RCTA)

If equipped, when the vehicle is shifted into R (Reverse), RCTA displays a red warning triangle with a left or right pointing arrow on the RVC screen to warn of traffic coming from the left or right. This system detects objects coming from up to 20 m (65 ft) from the left or right side of the vehicle. When an object is detected, three beeps sound from the left or right, depending on the direction of the detected vehicle.

Turning the Features On or Off

The P button on the center console is used to turn on or off the Front and Rear Parking Assist and the Rear Cross Traffic Alert (RCTA). The indicator light in the button comes on when the features are on and turns off when the features have been disabled.

RCTA can also be turned off through vehicle personalization. See "Collision/Detection Systems" under *Vehicle Personalization* ⇨ *141*.

To turn the RPA symbols or guidance lines on or off, see "Rear Camera" under *Vehicle Personalization* ⇨ *141*.

Automatic Parking Assist (APA)

If equipped, APA searches for and steers the vehicle into parallel and perpendicular parking spots. When using APA, you must still shift gears, and control the brakes and accelerator. The Driver Information Center (DIC) and audible beeps help to guide parking maneuvers.

⚠ Warning

APA does not apply the brakes. APA may not detect objects in the parking space, objects that are soft or narrow, objects high off the ground such as flatbed trucks, or objects below ground level such as large potholes. Always verify that the parking space is appropriate for parking a vehicle. APA does not respond to changes

(Continued)

Warning (Continued)

in the parking space, such as movement of an adjacent vehicle, or a person or object entering the parking space. APA does not detect or avoid traffic that is behind or alongside of the vehicle. Always be prepared to stop the vehicle during the parking maneuver.

Press P on the center console to enable the system to search for a parking space that is large enough and within 1.5 m (5 ft) of the vehicle. The vehicle speed must be below 30 km/h (18 mph).

The system cannot:

- Detect whether it is a legal parking space.
- Park exactly lined up with the vehicle next to it if the spot is approached at an angle or if the parking space is angled.
- Park exactly centered in a spot that is marked too large.

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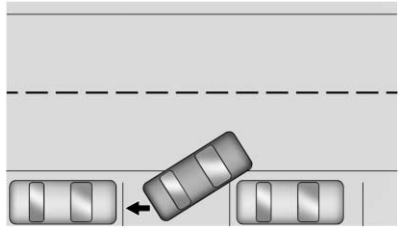
- Always detect short curbs.

If the vehicle is equipped with perpendicular parking mode, press and hold P during the search process to switch the APA parking mode between perpendicular and parallel parking.

APA searches for parking spaces to the right of the vehicle. To search for a parking space to the left, turn on the left turn signal.



After completely passing a large enough space bordered by two vehicles or other objects, an audible beep occurs and a red symbol displays in the DIC.



APA will instruct the vehicle to stop once a large enough space is found. Follow the instructions in the DIC. When instructed to drive in reverse, shift to R (Reverse) to engage automatic steering. The steering wheel will briefly vibrate as a reminder to remove hands from the steering wheel. Check surroundings and continue braking or accelerating as needed, and be prepared to stop to avoid vehicles, pedestrians, or objects.

If the vehicle is in R (Reverse), but does not steer into the expected space, this may be because the system is maneuvering the vehicle into a previously detected space. The APA system does not need service.

If the vehicle exceeds 10 km/h (6 mph), APA is automatically disengaged and automatic steering will turn off. A DIC progress arrow displays the status of the parking maneuver. Depending on the space size, additional maneuvers may be required, and there will be additional instructions. When changing gears, allow the automatic steering to complete before continuing the parking maneuver. Upon successful completion of a maneuver, APA will beep and display a PARKING COMPLETE message. Place the vehicle in P (Park).

APA may automatically disengage if:

- The steering wheel is used by the driver.
- The maximum allowed speed is exceeded.
- There is a failure with the APA system.
- Electronic Stability Control or antilock brakes are activated.
- A high priority vehicle message is displayed in the DIC.

DEP DEALER E-PROCESS

To cancel APA, press P again.

Assistance Systems for Driving

If equipped, when driving the vehicle in a forward gear, Forward Collision Alert (FCA), Lane Departure Warning (LDW), Lane Keep Assist (LKA), Side Blind Zone Alert (SBZA), Lane Change Alert (LCA), and/or the Forward Automatic Braking (FAB) can help to avoid a crash or reduce crash damage.

Forward Collision Alert (FCA) System

If equipped, the FCA system may help to avoid or reduce the harm caused by front-end crashes. When approaching a vehicle ahead too quickly, FCA provides a red flashing alert on the windshield and rapidly beeps. FCA also lights an amber visual alert if following another vehicle much too closely.

FCA detects vehicles within a distance of approximately 60 m (197 ft) and operates at speeds above 8 km/h (5 mph).

⚠ Warning

FCA is a warning system and does not apply the brakes. When approaching a slower-moving or stopped vehicle ahead too rapidly, or when following a vehicle too closely, FCA may not provide a warning with enough time to help avoid a crash. It also may not provide any warning at all. FCA does not warn of pedestrians, animals, signs, guardrails, bridges, construction barrels, or other objects. Be ready to take action and apply the brakes. See *Defensive Driving* ⇨ *166*.

FCA can be disabled with the FCA steering wheel control.

Detecting the Vehicle Ahead



FCA warnings will not occur unless the FCA system detects a vehicle ahead. When a vehicle is detected, the vehicle ahead indicator will display green. Vehicles may not be detected on curves, highway exit ramps, or hills, due to poor visibility; or if a vehicle ahead is partially blocked by pedestrians or other objects. FCA will not detect another vehicle ahead until it is completely in the driving lane.

⚠ Warning

FCA does not provide a warning to help avoid a crash, unless it detects a vehicle. FCA may not detect a vehicle ahead if the FCA sensor is blocked by dirt, snow,

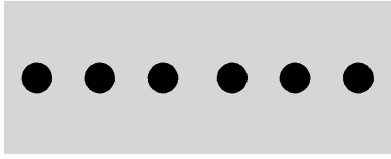
(Continued)

DEP DEALER E-PROCESS

Warning (Continued)

or ice, or if the windshield is damaged. It may also not detect a vehicle on winding or hilly roads, or in conditions that can limit visibility such as fog, rain, or snow, or if the headlamps or windshield are not cleaned or in proper condition. Keep the windshield, headlamps, and FCA sensors clean and in good repair.

Collision Alert



When your vehicle approaches another detected vehicle too rapidly, the red FCA display will flash on the windshield. Also, eight rapid high-pitched beeps will sound from the front. When this Collision Alert occurs, the brake system may prepare for driver braking to occur more rapidly which can cause a brief, mild deceleration. Continue to apply the brake pedal as needed. Cruise control may be disengaged when the Collision Alert occurs.

Tailgating Alert



The vehicle ahead indicator will display amber when you are following a detected vehicle ahead much too closely.

Selecting the Alert Timing

The Collision Alert control is on the steering wheel. Press to set the FCA timing to Far, Medium, or Near, or on some vehicles, Off. The first button press shows the current setting on the Driver Information Center (DIC). Additional button presses will change this setting. The chosen setting will remain until it is changed and will affect the timing of both the Collision Alert and the Tailgating Alert features. The timing of both alerts will vary based on vehicle speed. The faster the vehicle speed, the farther away the alert will occur. Consider traffic and weather conditions when selecting the alert timing. The range of selectable alert timings may not be appropriate for all drivers and driving conditions.

Following Distance Indication

The distance to a moving vehicle that you are following is shown in seconds on the Driver Information Center (DIC). See *Driver Information Center (DIC)* ⇨ *130*. The minimum following time is 0.5 seconds away. If there is no vehicle detected ahead, or the vehicle ahead is out of sensor range, dashes will be displayed.

Unnecessary Alerts

FCA may provide unnecessary alerts to turning vehicles, vehicles in other lanes, objects that are not vehicles, or shadows. These alerts are normal operation and the vehicle does not need service.

DEALER E-PROCESS

Cleaning the System

If the FCA system does not seem to operate properly, cleaning the outside of the windshield in front of the rearview mirror, and cleaning the front of the vehicle where radar sensors are located, may correct the issue.

Forward Automatic Braking (FAB)

If the vehicle has Forward Collision Alert (FCA), it also has FAB, which includes Intelligent Brake Assist (IBA). When the system detects a vehicle ahead in your path that is traveling in the same direction that you may be about to crash into, it can provide a boost to braking or automatically brake the vehicle. This can help avoid or lessen the severity of crashes when driving in a forward gear. Depending on the situation, the vehicle may automatically brake moderately or hard. This front automatic braking can only occur if a vehicle is detected. This is shown by the FCA vehicle ahead indicator being lit. See *Forward Collision Alert (FCA) System* ⇨ *208*.

The system works when driving in a forward gear between 8 km/h (5 mph) and 60 km/h (37 mph). It can detect vehicles up to approximately 60 m (197 ft).

⚠ Warning

FAB is an emergency crash preparation feature and is not designed to avoid crashes. Do not rely on FAB to brake the vehicle. FAB will not brake outside of its operating speed range and only responds to detected vehicles.

FAB may not:

- Detect a vehicle ahead on winding or hilly roads.
- Detect all vehicles, especially vehicles with a trailer, tractors, muddy vehicles, etc.

(Continued)

Warning (Continued)

- Detect a vehicle when weather limits visibility, such as in fog, rain, or snow.
- Detect a vehicle ahead if it is partially blocked by pedestrians or other objects.

Complete attention is always required while driving, and you should be ready to take action and apply the brakes and/or steer the vehicle to avoid crashes.

FAB may slow the vehicle to a complete stop to try to avoid a potential crash. If this happens, FAB may engage the Electric Parking Brake (EPB) to hold the vehicle at a stop. Release the EPB or firmly press the accelerator pedal.

⚠ Warning

FAB may automatically brake the vehicle suddenly in situations where it is unexpected and

(Continued)

DEP DEALER E-PROCESS

Warning (Continued)

undesired. It could respond to a turning vehicle ahead, guardrails, signs, and other non-moving objects. To override FAB, firmly press the accelerator pedal, if it is safe to do so.

Intelligent Brake Assist (IBA)

IBA may activate when the brake pedal is applied quickly by providing a boost to braking based on the speed of approach and distance to a vehicle ahead.

Minor brake pedal pulsations or pedal movement during this time is normal and the brake pedal should continue to be applied as needed. IBA will automatically disengage only when the brake pedal is released.

⚠ Warning

IBA may increase vehicle braking in situations when it may not be necessary. You could block the flow of traffic. If this occurs, take your foot off the brake pedal and then apply the brakes as needed.

FAB and IBA can be disabled through vehicle personalization. See the “Auto Collision Preparation” information in “Collision/Detection Systems” under *Vehicle Personalization* ⇨ *141*.

Side Blind Zone Alert (SBZA)

If equipped, the SBZA system is a lane-changing aid that assists drivers with avoiding crashes that occur with moving vehicles in the side blind zone (or spot) areas. When the vehicle is in a forward gear, the left or right side mirror display will light up if a moving vehicle is detected in that blind zone. If the turn signal is activated and a vehicle is also detected on the same side, the display will flash as an extra warning not to change lanes. Since this system is part of the Lane Change Alert (LCA) system, read the entire LCA section before using this feature.

Lane Change Alert (LCA)

If equipped, the LCA system is a lane-changing aid that assists drivers with avoiding lane change crashes that occur with moving vehicles in the side blind zone (or spot) areas or with vehicles rapidly approaching these areas from behind. The LCA warning display will light up in the corresponding outside side mirror and will flash if the turn signal is on.

⚠ Warning

LCA does not alert the driver to vehicles outside of the system detection zones, pedestrians, bicyclists, or animals. It may not provide alerts when changing

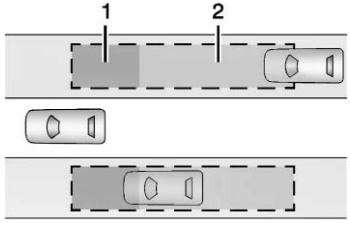
(Continued)

DEP DEALER E-PROCESS

Warning (Continued)

lanes under all driving conditions. Failure to use proper care when changing lanes may result in injury, death, or vehicle damage. Before making a lane change, always check mirrors, glance over your shoulder, and use the turn signals.

LCA Detection Zones



1. SBZA Detection Zone
2. LCA Detection Zone

The LCA sensor covers a zone of approximately one lane over from both sides of the vehicle, or 3.5 m (11 ft). The height of the zone is approximately between 0.5 m (1.5 ft) and 2 m (6 ft) off the ground. The Side Blind Zone Alert (SBZA) warning area starts at approximately the middle of the vehicle and goes back 5 m (16 ft). Drivers are also warned of vehicles rapidly approaching from up to 25 m (82 ft) behind the vehicle.

How the System Works

The LCA symbol lights up in the side mirrors when the system detects a moving vehicle in the next lane over that is in the side blind zone or rapidly approaching that zone from behind. A lit LCA symbol indicates it may be unsafe to change lanes. Before making a lane change, check the LCA display, check mirrors, glance over your shoulder, and use the turn signals.



Left Side Mirror Display **Right Side Mirror Display**

When the vehicle is started, both outside mirror LCA displays will briefly come on to indicate the system is operating. When the vehicle is in a forward gear, the left or right side mirror display will light up if a moving vehicle is detected in the next lane over in that blind zone or rapidly approaching that zone. If the turn signal is activated in the same direction as a detected vehicle, this display will flash as an extra warning not to change lanes.

LCA can be disabled through vehicle personalization. See “Collision/Detection Systems” under *Vehicle Personalization* ⇨ *141*. If LCA is disabled by the driver, the LCA mirror displays will not light up.

When the System Does Not Seem to Work Properly

The LCA system requires some driving for the system to calibrate to maximum performance. This calibration may occur more quickly if the vehicle is driving on a straight highway road with traffic and roadside objects (e.g., guardrails, barriers). During a trip, the LCA

DEP DEALER E-PROCESS

system is not operational until the vehicle first reaches a speed of 24 km/h (15 mph).

LCA displays may not come on when passing a vehicle quickly or for a stopped vehicle. LCA may alert to objects attached to the vehicle, such as a bicycle or object extending out to either side of the vehicle. Attached objects may also interfere with the detection of vehicles. This is normal system operation; the vehicle does not need service.

LCA may not always alert the driver to vehicles in the next lane over, especially in wet conditions or when driving on sharp curves. The system does not need to be serviced. The system may light up due to guardrails, signs, trees, shrubs, and other non-moving objects. This is normal system operation; the vehicle does not need service.

LCA may not operate when the LCA sensors in the left or right corners of the rear bumper are covered with mud, dirt, snow, ice, or slush, or in heavy rainstorms. For cleaning instructions, see "Washing the Vehicle" under *Exterior Care* ⇨ *314*. If the DIC still displays the system unavailable message after cleaning both sides of the vehicle toward the rear corners of the vehicle, see your dealer.

If the LCA displays do not light up when moving vehicles are in the side blind zone or rapidly approaching this zone and the system is clean, the system may need service. Take the vehicle to your dealer.

When LCA is disabled for any reason other than the driver turning it off, the Lane Change Alert On option will not be available on the personalization menu.

Radio Frequency Information

See *Radio Frequency Statement* ⇨ *351*.

Lane Departure Warning (LDW)

If equipped, LDW may help avoid crashes due to unintentional lane departures. It may provide a warning if the vehicle is crossing a detected lane marking without using a turn signal in the lane departure direction. Since this system is part of the Lane Keep Assist (LKA) system, read the entire LKA section before using this feature.

Lane Keep Assist (LKA)

If equipped, LKA may help avoid crashes due to unintentional lane departures. It may assist by gently turning the steering wheel if the vehicle approaches a detected lane marking without using a turn signal in that direction. It may also provide a Lane Departure Warning (LDW) system alert as the lane marking is crossed. The LKA system will not assist or provide an LDW alert if it detects that you are actively steering. Override LKA by turning the steering wheel. LKA uses a camera to detect lane markings between 60 km/h (37 mph) and 180 km/h (112 mph).

DEALER E-PROCESS

⚠ Warning

The LKA system does not continuously steer the vehicle. It may not keep the vehicle in the lane or give a Lane Departure Warning (LDW) alert, even if a lane marking is detected.

The LKA and LDW systems may not:

- Provide an alert or enough steering assist to avoid a lane departure or crash.
- Detect lane markings under poor weather or visibility conditions. This can occur if the windshield or headlamps are blocked by dirt, snow, or ice, if they are not in proper condition, or if the sun shines directly into the camera.
- Detect road edges.
- Detect lanes on winding or hilly roads.

(Continued)

Warning (Continued)

If LKA only detects lane markings on one side of the road, it will only assist or provide an LDW alert when approaching the lane on the side where it has detected a lane marking. Even with LKA and LDW, you must steer the vehicle. Always keep your attention on the road and maintain proper vehicle position within the lane, or vehicle damage, injury, or death could occur. Always keep the windshield, headlamps, and camera sensors clean and in good repair. Do not use LKA in bad weather conditions.

⚠ Warning

Using LKA on slippery roads could cause loss of control of the vehicle and a crash. Turn the system off.

How the System Works

The LKA camera sensor is on the windshield ahead of the rearview mirror.

To turn LKA on and off, press  on the steering wheel.

When on,  is green if LKA is available to assist and provide LDW alerts. It may assist by gently turning the steering wheel and display  as amber if the vehicle approaches a detected lane marking without using a turn signal in that direction. It may also provide an LDW alert by flashing amber as the lane marking is crossed. Additionally, there will be three beeps on the right or left, depending on the lane departure direction.

The LKA system does not continuously steer the vehicle. If LKA does not detect active driver steering, an alert and chime may be provided. Move the steering wheel to dismiss.

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When the System Does Not Seem to Work Properly

The system performance may be affected by:

- Close vehicles ahead.
- Sudden lighting changes, such as when driving through tunnels.
- Banked roads.
- Roads with poor lane markings, such as two-lane roads.

If the LKA system is not functioning properly when lane markings are clearly visible, cleaning the windshield may help.

LKA assistance and/or LDW alerts may occur due to tar marks, shadows, cracks in the road, temporary or construction lane markings, or other road imperfections. This is normal system operation; the vehicle does not need service. Turn LKA off if these conditions continue.

Charging

Plug-In Charging

This section explains the charging of the vehicle's high voltage battery. Do not allow the vehicle to remain in extreme temperatures for long periods without being driven or plugged in. Plug the vehicle in when temperatures are below 0 °C (32 °F) and above 32 °C (90 °F) to maximize the life of the high voltage battery.

When using a 120-volt AC electrical outlet, it will take approximately 13 hours to charge the vehicle with the 12 amp AC current setting or 19 hours using the default 8 amp AC current setting. When using a 240-volt charging station, it will take approximately 4.5 hours to charge the vehicle. Charge times will vary with outside temperature. There are three ways to program how the vehicle is charged. See *Programmable Charging* ⇨ *119*.

The charging system may run fans and pumps that result in sounds from the vehicle while it is turned off. Additional unexpected clicking sounds may be caused by the electrical devices used while charging.

While the charge cord is plugged into the vehicle, the vehicle cannot be driven.

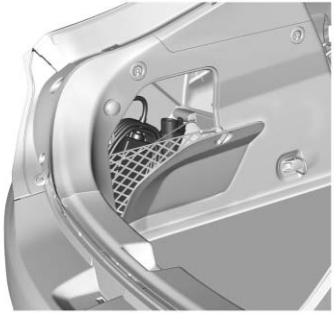
Charging

Start Charge

1. Make sure the vehicle is parked. Select the appropriate charge level using the Charge Limit Preference screen on the center stack. See “Charge Limit Selection” under *Programmable Charging* ⇨ *119*. Turn the vehicle off.
2. Push the rearward edge of the charge port door in and release to open the door.

 In cold weather conditions, ice may form around the charge port door. Remove ice from the area before attempting to open or close the charge port door.

DEALER E-PROCESS



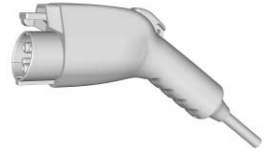
3. Open the rear hatch. Open the left storage compartment door and remove the charge cord.
4. Plug the charge cord into the electrical outlet. See *Electrical Requirements for Battery Charging* ⇨ *229*. Verify the charge cord status. See *Charge Cord* ⇨ *222*.



5. Plug in the vehicle plug of the charge cord into the charge port on the vehicle. Verify that the charging status indicator illuminates on top of the instrument panel and an audible beep occurs. See *Charging Status Feedback* ⇨ *217*.
6. To arm the charge cord theft alert, lock the vehicle with the RKE transmitter. To disable this feature, see “Charge Cord Theft Alert” in *Vehicle Personalization* ⇨ *141*.

End Charge

1. Unlock the vehicle with the RKE transmitter to disarm the charge cord theft alert.



2. Unplug the vehicle plug of the charge cord from the vehicle.
3. Close the charge port door by pressing firmly on the rearward edge of the door surface.
4. Unplug the charge cord from the electrical outlet.
5. Place the charge cord into the storage compartment.

DEP DEALER E-PROCESS

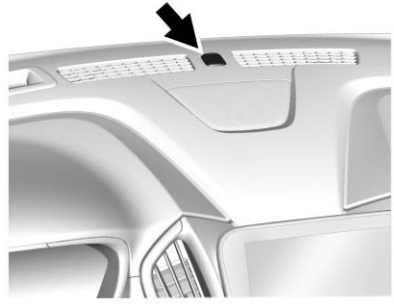
Delayed Charging Override

To temporarily override a delayed charge event, unplug the charge cord from the charge port and then plug it back in within five seconds. A single audible beep will sound and charging will begin immediately.

To cancel a temporary override, unplug the charge cord, wait for 10 seconds, and then plug the charge cord back in. A double audible beep will sound and charging will be delayed.

See *Programmable Charging* ⇨ *119* for advanced charge scheduling options.

Charging Status Feedback



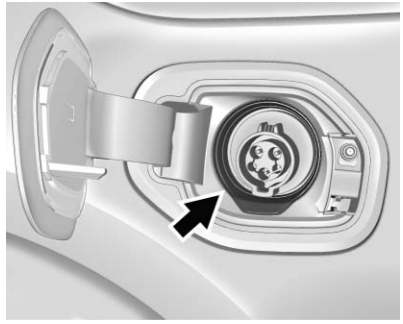
The vehicle has a Charging Status Indicator (CSI) at the center of the instrument panel near the windshield. When the vehicle is plugged in and the vehicle power is off, the CSI indicates the following:

- Short Flashing Green – Vehicle is plugged in. Battery is not fully charged. Flash rate increases from one to four flashes as battery charges.
- Long Flashing Green – Vehicle is plugged in. Battery is not fully charged. Battery charging is delayed.
- Solid Green – Vehicle is plugged in. Battery is fully charged.
- Solid Yellow – Vehicle is plugged in. It is normal for the CSI to turn yellow for a few seconds after plugging in a compatible charge cord. The solid yellow may be extended depending on the vehicle and if there is a total utility interruption via OnStar. See *Utility Interruption of Charging* ⇨ *228*. This may also indicate that the charging system has detected a fault and will not charge the battery. See “Charge Cord Status Indicators” in *Charge Cord* ⇨ *222*.

DEP
DEALER E-PROCESS

If the vehicle is plugged in and vehicle power is on, the CSI will flash or will be solid green, depending on the charge level. This also happens during a remote start if the vehicle is plugged in.

If the vehicle is plugged in and the CSI is off, a total utility interruption using OnStar or a charging fault has been detected. See *Utility Interruption of Charging* ⇨ *228* or "Charge Cord Status Indicators" in *Charge Cord* ⇨ *222*.



If equipped, the charge port bezel light acts as an additional CSI when the vehicle is plugged in and charging. It will flash along with the CSI on the instrument panel.

When the charge port door is open and the vehicle is not plugged in, the bezel light stays on solid to light the charging receptacle.

A message displays if the vehicle is not able to charge.

Following is the vehicle feedback when the charge cord is plugged in.

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DEALER E-PROCESS

Charging Status Indicator	Sound	Action/Reason
Short Flashing Green (Flash rate increases from one to four as the battery charges)	One audible beep	Charging has begun.
Long Flashing Green	Two audible beeps	Charging is delayed by Programmable Charging or, if the vehicle is equipped accordingly, by a total utility interruption via OnStar. Charging will begin later. See *Utility Interruption of Charging* ⇨ *228*.
Solid Green	None	Charging is complete.
Yellow (Upon Plug-in)	None	Charge cord is OK and the vehicle is not yet charging.
Yellow (For Extended Time Period after Plug-in)	None	Charge cord is OK, but the vehicle is not charging. This may be due to a total utility interruption via Onstar and charging will begin later. This may also occur if the vehicle has detected a high voltage charging system fault. See *Utility Interruption of Charging* ⇨ *228* or *Malfunction Indicator Lamp (Check Engine Light)* ⇨ *109*.

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DEALER E-PROCESS

Charging Status Indicator	Sound	Action/Reason
Short Flashing Green (From one to four flashes depending on charge level)	Two audible beeps	Vehicle is charging but will pause/delay at least once before the charge is complete.
Short Flashing Green (From one to four flashes depending on charge level) or Long Flashing Green	Four audible beeps	Insufficient time to fully charge by departure time due to the selected rate preference. To increase the battery state of charge at the departure time perform a delayed charging override. See *Delayed Charging Override* ⇨ *217*.
None (Upon Plug-in)	None	Charge cord connection should be checked.
None (After Green or Yellow CSI Indication Observed)	None	Charge cord connection should be checked. If connection is good, this may be due to a power failure or a total utility interruption via OnStar and charging will begin later. This may also occur if the vehicle has detected a high voltage charging system fault. See *Utility Interruption of Charging* ⇨ *228* or *Malfunction Indicator Lamp (Check Engine Light)* ⇨ *109*.

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DEALER E-PROCESS

Charging Status Indicator	Sound	Action/Reason
None	Repeated audible beeps To disable this feature, see “Charge Power Loss Alert” in *Vehicle Personalization* ⇨ *141*. To stop this alert, do one of the following: • Unplug the charge cord. • Press on the RKE transmitter. • Press and hold on the RKE transmitter, then press again to stop the panic alarm. • Press the horn pad.	Electricity has been interrupted before charging was complete. Repeated beeps will stop if power is restored within 90 seconds.
None	Three audible beeps	Charge port door is open.

DEP
DEALER E-PROCESS

Charge Cord

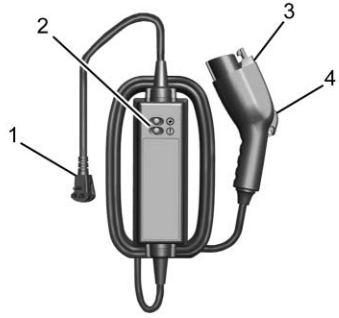
IMPORTANT SAFETY INSTRUCTIONS



This symbol means Warning: Risk of electrical shock.

See *Radio Frequency Statement* ⇨ *351*.

A portable charge cord used to charge the vehicle high voltage battery is stored in the left storage compartment in the rear cargo area.



1. Wall Plug
2. Status Indicators
3. Vehicle Plug
4. Release Button

Important Information about Portable Electric Vehicle Charging

- Charging an electric vehicle can stress a building's electrical system more than a typical household appliance.
- Before plugging into any electrical outlet, have a qualified electrician inspect and verify the electrical system for heavy-duty service at a 12 amp continuous load.
- Electrical outlets may wear out with normal usage or may be damaged over time, making them unsuitable for electric vehicle charging.
- Check the electrical outlet/plug while charging and discontinue use if the electrical outlet/plug is hot, then have the electrical outlet serviced by a qualified electrician.
- When outdoors, plug into an electrical outlet that is weatherproof.
- Mount the charging cord to reduce strain on the electrical outlet/plug.

DEP
DEALER E-PROCESS

⚠ Danger

Improper use of portable electric vehicle charge cords may cause a fire, electrical shock, or burns, and may result in damage to property, serious injury, or death.

- Do not use extension cords, multi-outlet power strips, splitters, grounding adaptors, surge protectors, or similar devices.
- Do not use an electrical outlet that is worn or damaged, or will not hold the plug firmly in place.
- Do not use an electrical outlet that is not properly grounded.
- Do not use an electrical outlet that is on a circuit with other electrical loads.

⚠ Warning

When using electric products, basic precautions should always be followed, including the following:

- Read all the safety warnings and instructions before using this product. Failure to follow the warnings and the instructions may result in electric shock, fire, and/or serious injury.
- Never leave children unattended near the vehicle while the vehicle is charging and never allow children to play with the charge cord.

(Continued)

Warning (Continued)

- If the plug provided does not fit the electrical outlet, do not modify the plug. Arrange for a qualified electrician to inspect the electrical outlet.
- Do not put fingers into the electric vehicle connector.

DEP
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Caution

- To reduce the risk of fire, installations shall comply with the requirements of National Electric Code, ANSI/NFPA 70 (USA), Canadian Electrical Code CSA 22.1 and IEC 60364 – Electrical installations in buildings, depending on the region in which the unit is being installed. The installer shall comply with any additional local requirements mandated by the country and/or municipality.
- Do not use this product if the flexible power cord or the electric vehicle cable is frayed, has broken insulation, or shows any other signs of damage.
- For Canada only: Not for use in commercial garages.

(Continued)

Caution (Continued)

- Do not use this product if the enclosure or the vehicle plug is broken, cracked, open, or shows any other indication of damage.
- The plug must be plugged into an appropriate electrical outlet that is properly installed in accordance with all local codes and ordinances. Do not modify the plug provided with the product. If the plug does not fit the electrical outlet, have a proper electrical outlet installed by a qualified electrician. If ground is missing, the charge cord indicators will indicate an electrical system fault and the vehicle may not charge.

Charge Cord Status Indicators

After plugging in the charge cord, it will perform a quick self test.

Verify the charge cord status. When the ⚡ indicator is lit solid green, the charge cord is ready to charge the vehicle.

The charge cord utilizes a combination of the ⚡ and ! indicators to display the status of the charge cord per the following table.

DEP DEALER E-PROCESS

⚡	ⓘ	Symbol	Fault/Condition/Event
● Solid Green	○ Off (No Light)	✓	No faults: The charge cord is receiving power from the electrical outlet and is ready to supply it to the vehicle.
✺ Flashing Green	● Solid Red	X	Electrical Outlet/Plug Fault: The charge cord has detected that the electrical outlet/plug overheated. Electrical outlets may wear out with normal usage or be damaged over time, making them unsuitable for electric vehicle charging. Do not use an electrical outlet that is worn, damaged, or one that will not hold the plug firmly in place. Use another electrical outlet or have the electrical outlet serviced by a qualified electrician. Reset the charge cord by unplugging the charge cord from the electrical outlet and re-plugging it.
○ Off (No Light)	● Solid Red	X	Electrical System Fault: The charge cord has detected a missing or improper ground within the building's electrical system. Do not use an electrical outlet that is not properly grounded. Use another electrical outlet or have a qualified electrician inspect and verify the building's electrical system.
○ Off (No Light)	✺ Flashing Red	X	Vehicle Fault: The charge cord ground-fault circuit interrupter (GFCI) has tripped. Ensure that there is no physical damage to the charge cord, and that the vehicle plug is seated completely and making a good connection. Reset the charge cord by unplugging from the electrical outlet and re-plugging it. If the fault remains, see an authorized dealer for service.

DEP DEALER E-PROCESS

		Symbol	Fault/Condition/Event
● Solid Green	Flashing Red	X	Charge Cord Fault: The charge cord has detected a potential problem with the charge cord. Reset the charge cord by unplugging from the electrical outlet and re-plugging it. If the fault remains, see an authorized dealer for service.

If no status indicators are lit, ensure the electrical outlet is powered.

Charge Limit Selection

Charge level selection can be made using the Charge Limit Preference screen on the center stack. See "Charge Limit Selection" under *Programmable Charging* ⇨ *119*.

⚠ Warning

Using a charge level that exceeds the electrical circuit or electrical outlet capacity may start a fire or damage the electrical circuit. Use the lowest charge level until a qualified electrician inspects the

(Continued)

Warning (Continued)

electrical circuit capacity. Use the lowest charge level if the electrical circuit or electrical outlet capacity is not known.

Grounding Instructions

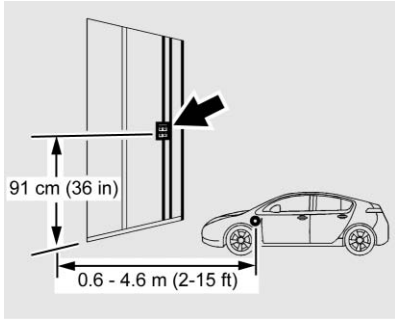
This product must be grounded. If this product should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord that has an equipment grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

⚠ Warning

Improper connection of the charge cord ground may cause electrical shock. Check with a qualified electrician if there is doubt as to whether the product is properly grounded. Do not modify the plug provided with the product. If it will not fit the electrical outlet, have a proper electrical outlet installed by a qualified electrician.

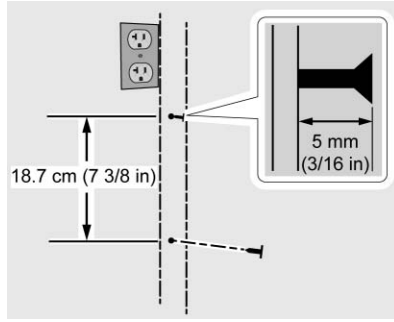
DEP DEALER E-PROCESS

Mounting Instructions



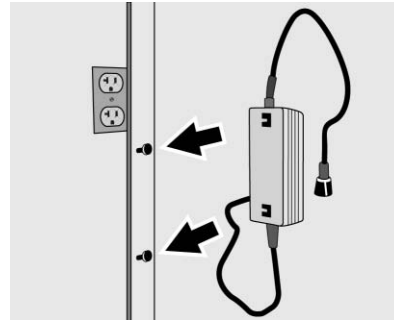
1. Identify an appropriate location for the charge cord.
2. Locate a mounting support, such as a wall stud.

 The appropriate height for mounting the charge cord is 91 cm (36 in) from the floor.



3. Mark and drill the mounting holes in a wall stud or suitable structure. Stay away from any power source.

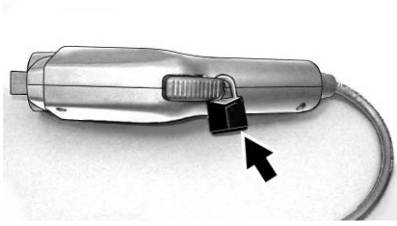
 Space the holes 18.7 cm (7 3/8 in) apart.
4. Install the mounting screws in the wall surface leaving the head of the screws 5 mm (3/16 in) from the surface.



5. Securely mount the charge cord on to the screws.
6. Connect the wall plug to the electrical outlet.
7. Connect the vehicle plug to the charge port.

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DEALER E-PROCESS

Lock Feature



A lock can be added to the vehicle plug for additional security.

FCC Notice

This unit has systems that operate on a radio frequency that complies with Part 15 of the Federal Communications Commission (FCC) rules and with ICES-003E of Industry Canada.

FCC rules, ICES-003E of Industry Canada, and EMC Directive 2004/108/EC.

Operation is subject to the following two conditions:

- The device may not cause interference.
- The device must accept any interference received, including interference that may cause undesired operation of the device.

Changes or modifications to any of these systems by other than an authorized service facility could void authorization to use this equipment.

Utility Interruption of Charging

If using AC charging, this vehicle will respond to remote requests through OnStar to limit or completely block electrical power grid usage for brief time periods. A utility interruption of charging may increase AC vehicle charge times.

When electrical grid power is completely blocked, the vehicle will delay charging until the utility interruption has expired. The vehicle should be left plugged in so that the vehicle can automatically begin charging.

Changing the charge mode to Immediate or performing a delayed charging override will not disable a utility interruption.

A pop-up will appear in the center stack display during the key cycle following any utility interruption. See “Charging Interrupted or Overridden Pop-Up” under *Programmable Charging* ⇨ *119*.

A message will display on the instrument cluster indicating that a utility interruption has occurred. See *Instrument Cluster* ⇨ *101*.

Charging Station Troubleshooting

If the vehicle does not charge after being plugged in to a residential 240-volt charging station:

1. Verify that the charge mode is set to Immediate.
2. Verify that the charging station’s circuit breaker has not been tripped.

DEP
DEALER E-PROCESS

3. Plug the portable charge cord into the wall outlet, verify that the indicator light on the charge cord is solid green, and connect it to the vehicle. See “Charge Cord Status Indicators” in *Charge Cord ⇨ 222*.
4. If the vehicle charges with the portable charge cord, there may be a problem with the charging station. Try to charge the vehicle with a different 240-volt charging station, such as a public station. If both attempts charge the vehicle, contact the charging station manufacturer.

Electrical Requirements for Battery Charging

This vehicle is capable of being charged with most standard vehicle charging equipment complying with one or more of the following:

- SAE J1772
- SAE J2847-2
- IEC 61851-1
- IEC 61851-22
- IEC 61851-23
- IEC 61851-24
- IEC 62196-1
- IEC 62196-2
- IEC 62196-3
- ISO 15118
- GB/T 18487.1
- GB/T 20234.1
- GB/T 20234.2

The following are the minimum requirements for circuits used to charge this vehicle:

- 120 volts/15 amps
- 240 volts/20 amps

Charging equipment with a rating of at least 240 volts/20 amps will provide the fastest charging time and best charging efficiency to recharge the high voltage battery. 240 volt/40 amp circuits provide flexibility for future vehicle charging needs. Always follow the charging equipment installation instructions. Contact your dealer for more information.

Caution

Do not use portable or stationary backup generating equipment to charge the vehicle. This may cause damage to the vehicle's charging system. Only charge the vehicle from utility supplied power.

DEP
DEALER E-PROCESS

Fuel

GM recommends the use of TOP TIER Detergent Gasoline to keep the engine cleaner and reduce engine deposits. See www.toptiergas.com for a list of TOP TIER Detergent Gasoline marketers and applicable countries.



Do not use any fuel labeled E85 or FlexFuel. Do not use gasoline with ethanol levels greater than 15% by volume.

Use regular unleaded gasoline meeting ASTM specification D4814 with a posted octane rating of 87 or higher. Do not use gasoline with a posted octane rating of less than 87, as this may cause engine knock and will lower fuel economy.

Prohibited Fuels

Caution

Do not use fuels with any of the following conditions; doing so may damage the vehicle and void its warranty:

- For vehicles which are not FlexFuel, fuel labeled greater than 15% ethanol by volume, such as mid-level ethanol blends (16 – 50% ethanol), E85, or FlexFuel.
- Fuel with any amount of methanol, methylal, and aniline. These fuels can corrode metal fuel system parts or damage plastic and rubber parts.
- Fuel containing metals such as methylcyclopentadienyl manganese tricarbonyl

(Continued)

Caution (Continued)

(MMT), which can damage the emissions control system and spark plugs.

- Fuel with a posted octane rating of less than the recommended fuel. Using this fuel will lower fuel economy and performance, and may decrease the life of the emissions catalyst.

California Fuel Requirements

If the vehicle is certified to meet California Emissions Standards, it is designed to operate on fuels that meet California specifications. See the underhood emission control label. If this fuel is not available in states adopting California Emissions Standards, the vehicle will operate satisfactorily on fuels meeting federal specifications, but emission control system performance might be affected. The malfunction indicator lamp could turn on and the

DEP DEALER E-PROCESS

vehicle may not pass a smog-check test. See *Malfunction Indicator Lamp (Check Engine Light)* ⇨ *109*. If this occurs, return to your authorized dealer for diagnosis. If it is determined that the condition is caused by the type of fuel used, repairs may not be covered by the vehicle warranty.

Fuels in Foreign Countries

The U.S., Canada, and Mexico post fuel octane ratings in anti-knock index (AKI). For fuel not to use in a foreign country, see “Prohibited Fuels” in *Fuel* ⇨ *230*.

Fuel Additives

To keep fuel systems clean, TOP TIER Detergent Gasoline is recommended. See *Fuel* ⇨ *230*.

If TOP TIER Detergent Gasoline is not available, one bottle of GM Fuel System Treatment Cleaner added to the fuel tank at every engine oil change, can help. GM Fuel System Treatment Cleaner is the only gasoline additive recommended by General Motors. It is available at your dealer.

Filling the Tank

⚠ Warning

Fuel vapors and fuel fires burn violently and can cause injury or death.

- To help avoid injuries to you and others, read and follow all the instructions on the fuel pump island.
- Turn off the engine when refueling.
- Keep sparks, flames, and smoking materials away from fuel.
- Do not leave the fuel pump unattended.
- Do not use a cell phone while refueling.
- Do not re-enter the vehicle while pumping fuel.

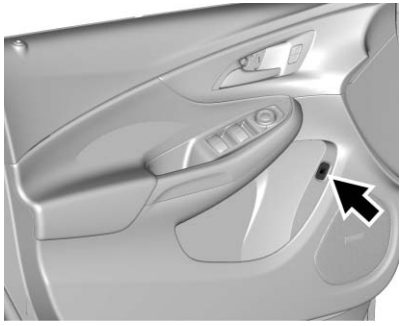
(Continued)

Warning (Continued)

- Keep children away from the fuel pump and never let children pump fuel.
- Fuel can spray out if the fuel cap is opened too quickly. This spray can happen if the tank is nearly full, and is more likely in hot weather. Open the fuel cap slowly and wait for any hiss noise to stop, then unscrew the cap all the way.

The fuel system on this vehicle requires a refueling process to control evaporative emissions. To refuel the vehicle:

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1. Press the fuel door button on the driver door for one second. A WAIT TO REFUEL message displays on the Driver Information Center.



2. When the READY TO REFUEL message displays, the fuel door on the passenger side will unlock. To open the fuel door, push and release the rearward center edge of the door.
3. Turn the fuel cap counterclockwise to remove. While refueling, hang the fuel cap tether from the hook on the inside of the fuel door. Complete refueling within 30 minutes of pressing the fuel door button on the driver door. If refueling after more than 30 minutes, press the fuel door button again.
4. After refueling, reinstall the fuel cap by turning it clockwise until it clicks. Close the fuel door.

⚠ Warning

Overfilling the fuel tank by more than three clicks of a standard fill nozzle may cause:

- Vehicle performance issues, including engine stalling and damage to the fuel system.
- Fuel spills.
- Potential fuel fires.

Be careful not to spill fuel. Wait a few seconds after you have finished pumping before removing the nozzle. Clean fuel from painted surfaces as soon as possible. See *Exterior Care* ⇨ *314*.

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⚠ Warning

If a fire starts while you are refueling, do not remove the nozzle. Shut off the flow of fuel by shutting off the pump or by notifying the station attendant. Leave the area immediately.

Caution

If a new fuel cap is needed, be sure to get the right type of cap from your dealer. The wrong type of fuel cap may not fit properly, may cause the malfunction indicator lamp to light, and could damage the fuel tank and emissions system. See *Malfunction Indicator Lamp (Check Engine Light)* ⇨ *109*.

Filling a Portable Fuel Container

⚠ Warning

Filling a portable fuel container while it is in the vehicle can cause fuel vapors that can ignite either by static electricity or other means. You or others could be badly burned and the vehicle could be damaged. Always:

- Use approved fuel containers.
- Remove the container from the vehicle, trunk, or pickup bed before filling.
- Place the container on the ground.

(Continued)

Warning (Continued)

- Place the nozzle inside the fill opening of the container before dispensing fuel, and keep it in contact with the fill opening until filling is complete.
- Fill the container no more than 95% full to allow for expansion.
- Do not smoke, light matches, or use lighters while pumping fuel.
- Avoid using cell phones or other electronic devices.

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Trailer Towing

General Towing Information

The vehicle is neither designed nor intended to tow a trailer or another vehicle.

For information on towing a disabled vehicle, see *Towing the Vehicle* ⇨ *311*. For information on towing the vehicle behind another vehicle such as a motor home, see *Recreational Vehicle Towing* ⇨ *312*.

Conversions and Add-Ons

Add-On Electrical Equipment

⚠ Warning

The Data Link Connector (DLC) is used for vehicle service and Emission Inspection/Maintenance testing. See *Malfunction Indicator Lamp (Check Engine Light)* ⇨ *109*. A device connected to the DLC — such as an aftermarket fleet or driver-behavior tracking device — may interfere with vehicle systems. This could affect vehicle operation and cause a crash. Such devices may also access information stored in the vehicle's systems.

Caution

Some electrical equipment can damage the vehicle or cause components to not work and would not be covered by the vehicle warranty. Always check with your dealer before adding electrical equipment.

Add-on equipment can drain the vehicle's 12-volt battery, even if the vehicle is not operating.

When adding electrical equipment, it should only be connected using the accessory power outlets. The maximum power that can be supplied by one accessory power outlet, or spread across all power outlets, is 200 watts or 15 amps. Exceeding 200 watts or 15 amps may cause erratic vehicle operation. See *Power Outlets* ⇨ *99*.

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General Information

For service and parts needs, visit your dealer. You will receive genuine GM parts and GM-trained and supported service people.

Genuine GM parts have one of these marks:

ACDelco

Genuine GM | Parts

GM Accessories

California Proposition 65 Warning

WARNING: Most motor vehicles, including this one, as well as many of its service parts and fluids, contain and/or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Engine exhaust, many parts and systems, many fluids, and some component wear by-products contain and/or emit these chemicals.

See *Battery - North America* ⇨ *256* and *Jump Starting - North America* ⇨ *305*.

California Perchlorate Materials Requirements

Certain types of automotive applications, such as airbag initiators, safety belt pretensioners, and lithium batteries contained in Remote Keyless Entry transmitters, may contain perchlorate materials. Special handling may be necessary. For additional information, see www.dtsc.ca.gov/hazardouswaste/perchlorate.

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Accessories and Modifications

Adding non-dealer accessories or making modifications to the vehicle can affect vehicle performance and safety, including such things as airbags, braking, stability, ride and handling, emissions systems, aerodynamics, durability, and electronic systems like antilock brakes, traction control, and stability control. These accessories or modifications could even cause malfunction or damage not covered by the vehicle warranty.

Damage to suspension components caused by modifying vehicle height outside of factory settings will not be covered by the warranty.

Damage to vehicle components resulting from modifications or the installation or use of non-GM certified parts, including control module or software modifications, is not covered under the terms of the vehicle warranty and may affect remaining warranty coverage for affected parts.

GM Accessories are designed to complement and function with other systems on the vehicle. See your dealer to accessorize the vehicle using genuine GM Accessories installed by a dealer technician.

Also, see *Adding Equipment to the Airbag-Equipped Vehicle* ⇨ *74*.

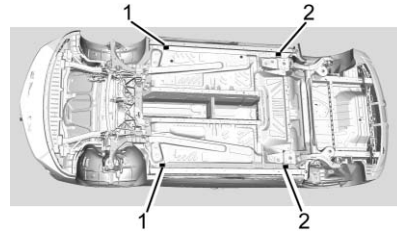
Lifting the Vehicle

Use only a hoist or a service jack to lift the vehicle. Do not use any other type of jack.

Lifting the Vehicle with a Hoist

To hoist lift, look for the four cutout areas on the body flange.

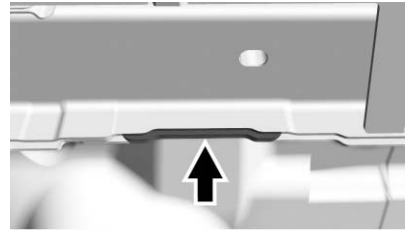
Caution
Lifting the vehicle improperly can damage the vehicle and result in costly repairs not covered by the warranty.



1. Front Lifting Points
2. Rear Lifting Points

Access the front lifting points (1) just behind the front tires.

Access the rear lifting points (2) just in front of the rear tires



The hoist arm pad and jack stands must be placed on this recessed area of the flange.

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Lifting the Vehicle with a Service Jack

⚠ Warning

Lifting a vehicle can cause an injury. The vehicle can slip off the jack and roll over you or other people. You and they could be badly injured. Find a level place to lift your vehicle. To help prevent the vehicle from moving:

1. Set the parking brake firmly.
2. Put the shift lever in P (Park).
3. Turn off the vehicle.

To be even more certain the vehicle will not move, put blocks in front of and behind the wheels.

⚠ Warning

Getting under a vehicle when it is lifted on a jack is dangerous. If the vehicle slips off the jack, you could be badly injured or killed. Never get under a vehicle when it is supported only by a jack.

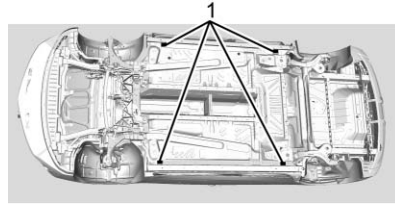
⚠ Warning

Raising the vehicle with the jack improperly positioned can damage the vehicle or the vehicle may fall and cause injury to you or others.

When using a jack to lift the vehicle, follow the instructions that came with the jack and be sure to use the correct lifting points to avoid damaging the vehicle.

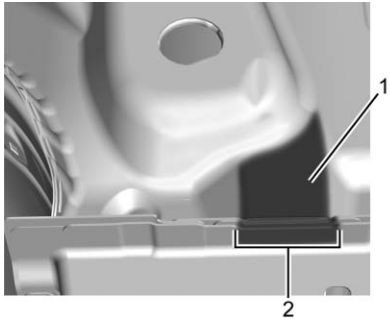
Caution

Lifting the vehicle improperly can cause damage and result in costly repairs not covered by the warranty. Lift the vehicle using only the lifting pads when lifting the vehicle with a jack.



Use the lifting pads (1) to properly lift the vehicle with a service jack.

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1. Lifting Pad
2. Flange Cutout

Place the service jack on the lifting pad. There is a cutout on the flange to identify the lifting pad.

For additional information, see your dealer and the service manual.

For more information, see *Doing Your Own Service Work* ⇨ *239*.

Vehicle Checks

Doing Your Own Service Work

⚠ Warning

Never try to do your own service on high voltage battery components. You can be injured and the vehicle can be damaged if you try to do your own service work. Service and repair of these high voltage battery components should only be performed by a trained dealer technician with the proper knowledge and tools.

Exposure to high voltage can cause shock, burns, and even death. The high voltage components in the vehicle can only be serviced by technicians with special training.

High voltage components are identified by labels. Do not remove, open, take apart,

(Continued)

Warning (Continued)

or modify these components. High voltage cable or wiring has orange covering. Do not probe, tamper with, cut, or modify high voltage cable or wiring.

⚠ Warning

It can be dangerous to work on your vehicle if you do not have the proper knowledge, service manual, tools, or parts. Always follow owner manual procedures and consult the service manual for your vehicle before doing any service work.

If doing some of your own service work, use the proper service manual. It tells you much more about how to service the vehicle than this manual can. To order the proper service manual, see *Service Publications Ordering Information* ⇨ *350*.

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This vehicle has an airbag system. Before attempting to do your own service work, see *Airbag System Check* ⇨ *75*.

Keep a record with all parts receipts and list the mileage and the date of any service work performed. See *Maintenance Records* ⇨ *336*.

Caution
Even small amounts of contamination can cause damage to vehicle systems. Do not allow contaminants to contact the fluids, reservoir caps, or dipsticks.

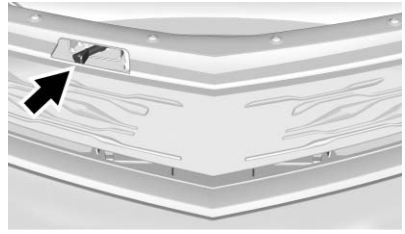
Hood

To open the hood:

1. Turn the vehicle off before opening the hood. If the vehicle is on, the engine will start when the hood is opened. See *Electric Mode* ⇨ *180* and *Extended Range Mode* ⇨ *180*.

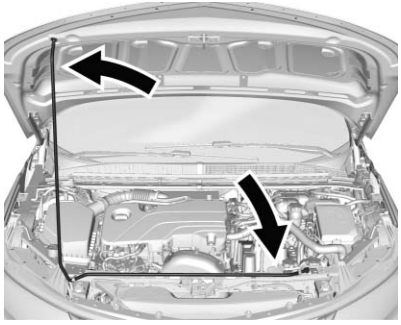


2. Pull the release handle with this symbol. It is below the instrument panel outboard of the steering wheel.



3. Go to the front of the vehicle and locate the secondary release lever under the front left center of the hood. Push the secondary hood release lever to the right to disengage.

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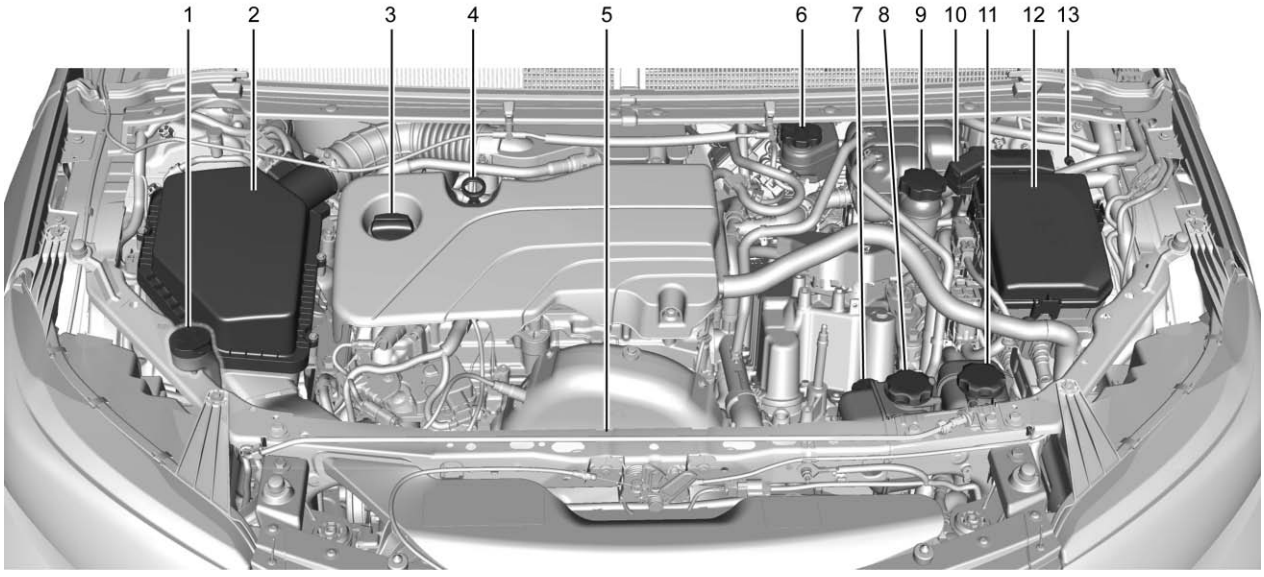
4. Lift the hood and release the hood prop rod from its retainer above the radiator support. Place the prop rod securely into the slot in the hood.

To close the hood:

1. Before closing the hood, check that all filler caps are properly installed. Then, lift the hood to relieve pressure on the hood prop.
2. Remove the hood prop from the slot in the hood and return it to its retainer above the radiator support. The prop rod must lock into place when returning it to the retainer to prevent hood damage.
3. Lower the hood 20 cm (8 in) above the vehicle and release it so it fully latches. Check to make sure the hood is firmly closed. Repeat the process if necessary.

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Engine Compartment Overview



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1. Windshield Washer Fluid Reservoir. See “Adding Washer Fluid” under *Washer Fluid* ⇨ *253*.
2. *Engine Air Cleaner/Filter* ⇨ *246*.
3. Engine Oil Fill Cap. See *Engine Oil* ⇨ *243*.
4. Engine Oil Dipstick. See *Engine Oil* ⇨ *243*.
5. Engine Cooling Fans (Out of View). See *Cooling System (Engine)* ⇨ *248* or *Cooling System (High Voltage Battery)* ⇨ *248* or *Cooling System (Power Electronics and Charger Modules)* ⇨ *249*.
6. Brake Fluid Reservoir. See *Brake Fluid* ⇨ *254*.
7. Electric Drive Unit Fluid Cap.
8. High Voltage Battery Coolant Reservoir and Pressure Cap. See *Cooling System (Engine)* ⇨ *248* or *Cooling System (High Voltage Battery)* ⇨ *248* or *Cooling System (Power Electronics and Charger Modules)* ⇨ *249*.
9. Engine Coolant Surge Tank and Pressure Cap. See *Engine Coolant* ⇨ *250*.
10. Remote Positive (+) Terminal. See *Jump Starting - North America* ⇨ *305*.
11. Power Electronics Coolant Reservoir and Pressure Cap. See *Cooling System (Engine)* ⇨ *248* or *Cooling System (High Voltage Battery)* ⇨ *248* or *Cooling System (Power Electronics and Charger Modules)* ⇨ *249*.
12. *Engine Compartment Fuse Block* ⇨ *263*.
13. Remote Negative (−) Terminal. See *Jump Starting - North America* ⇨ *305*.

Engine Oil

To ensure proper engine performance and long life, careful attention must be paid to engine oil. Following these simple, but important steps will help protect your investment:

- Use engine oil approved to the proper specification and of the proper viscosity grade. See “Selecting the Right Engine Oil” in this section.
- Check the engine oil level regularly and maintain the proper oil level. See “Checking Engine Oil” and “When to Add Engine Oil” in this section.
- Change the engine oil at the appropriate time. See *Engine Oil Life System* ⇨ *245*.
- Always dispose of engine oil properly. See “What to Do with Used Oil” in this section.

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Checking Engine Oil

It is a good idea to check the engine oil level at each fuel fill. In order to get an accurate reading, the vehicle must be on level ground. The engine oil dipstick handle is a loop. See *Engine Compartment Overview* ⇨ *242* for the location of the engine oil dipstick.

Obtaining an accurate oil level reading is essential:

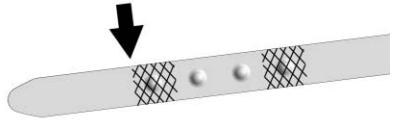
1. If the engine has been running recently, turn off the engine and allow several minutes for the oil to drain back into the oil pan. Checking the oil level too soon after engine shutoff will not provide an accurate oil level reading.

⚠ Warning

The engine oil dipstick handle may be hot; it could burn you. Use a towel or glove to touch the dipstick handle.

2. Pull out the dipstick and wipe it with a clean paper towel or cloth, then push it back in all the way. Remove it again, keeping the tip down, and check the level.

When to Add Engine Oil



If the oil is below the cross-hatched area at the tip of the dipstick, add 1 L (1 qt) of the recommended oil and then recheck the level. See “Selecting the Right Engine Oil” in this section for an explanation of what kind of oil to use. For engine oil crankcase capacity, see *Capacities and Specifications* ⇨ *338*.

Caution

Do not add too much oil. Oil levels above or below the acceptable operating range shown on the dipstick are harmful to the engine. If you find that you have an oil level above the operating range, i.e., the engine has so much oil that the oil level gets above the cross-hatched area that shows the proper operating range, the engine could be damaged. You should drain out the excess oil or limit driving of the vehicle and seek a service professional to remove the excess amount of oil.

See *Engine Compartment Overview* ⇨ *242* for the location of the engine oil fill cap.

Add enough oil to put the level somewhere in the proper operating range. Push the dipstick all the way back in when through.

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Selecting the Right Engine Oil

Selecting the right engine oil depends on both the proper oil specification and viscosity grade. See *Recommended Fluids and Lubricants* ⇨ *334*.

Specification

Ask for and use engine oils that meet the dexos1™ specification. Engine oils that have been approved by GM as meeting the dexos1 specification are marked with the dexos1 approved logo. See www.gmdexos.com.



Caution
Failure to use the recommended engine oil or equivalent can result in engine damage not covered by the vehicle warranty.

Viscosity Grade

Use SAE 5W-20 viscosity grade engine oil. SAE 0W-20 may be used as an alternative.

When selecting an oil of the appropriate viscosity grade, it is recommended to select an oil of the correct specification. See “Specification” earlier in this section.

Engine Oil Additives/Engine Oil Flushes

Do not add anything to the oil. The recommended oils meeting the dexos1 specification are all that is needed for good performance and engine protection.

Engine oil system flushes are not recommended and could cause engine damage not covered by the vehicle warranty.

What to Do with Used Oil

Used engine oil contains certain elements that can be unhealthy for your skin and could even cause cancer. Do not let used oil stay on your skin for very long. Clean your skin and nails with soap and water, or a good hand cleaner. Wash or properly dispose of clothing or rags containing used engine oil. See the manufacturer's warnings about the use and disposal of oil products.

Used oil can be a threat to the environment. If you change your own oil, be sure to drain all the oil from the filter before disposal. Never dispose of oil by putting it in the trash or pouring it on the ground, into sewers, or into streams or bodies of water. Recycle it by taking it to a place that collects used oil.

Engine Oil Life System

When to Change Engine Oil

This vehicle has a computer system that indicates when to change the engine oil and filter. This is based on a combination of factors which include engine revolutions, engine temperature, and miles driven. Based on driving conditions, the mileage at which an oil change is indicated can vary considerably. For the oil life system to work properly, the system must be reset every time the oil is changed.

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When the system has calculated that oil life has been diminished, it indicates that an oil change is necessary. A CHANGE ENGINE OIL SOON message comes on. Change the oil as soon as possible within the next 1 000 km (600 mi). It is possible that, if driving under the best conditions, the oil life system might indicate that an oil change is not necessary for up to two years. The engine oil and filter must be changed at least once every two years and, at this time, the system must be reset. Your dealer has trained service people who will perform this work and reset the system. It is also important to check the oil regularly over the course of an oil drain interval and keep it at the proper level.

If the system is ever reset accidentally, the oil must be changed at 5 000 km (3,000 mi) since the last oil change. Remember to reset the oil life system whenever the oil is changed.

How to Reset the Engine Oil Life System

Reset the system whenever the engine oil is changed so that the system can calculate the next engine oil change. To reset the system:

1. Select REMAINING OIL LIFE on the DIC menu.
2. Press and hold ✓ for several seconds while the Oil Life display is active to reset the Oil Life system.
3. 100% OIL LIFE will be displayed when the oil life system is successfully reset.

The oil life system can also be reset as follows:

1. Turn the ignition to ON/RUN with the engine off.
2. Fully press and release the accelerator pedal three times within five seconds.

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If the CHANGE ENGINE OIL SOON message comes back on when the vehicle is started, the engine oil life system has not reset. Repeat the procedure.

Engine Air Cleaner/Filter

The engine air cleaner/filter is in the engine compartment on the passenger side of the vehicle, see *Engine Compartment Overview* ⇨ *242*.

When to Inspect the Engine Air Filter

For intervals on changing and inspecting the engine air cleaner/filter, see *Maintenance Schedule* ⇨ *326*.

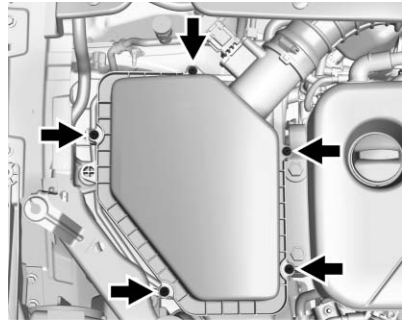
How to Inspect the Engine Air Filter

Do not start the engine or have the engine running with the engine air cleaner/filter housing open. Before removing the engine air cleaner/filter, make sure that the engine air cleaner/filter housing and nearby components are free of dirt and debris. Remove the engine air

cleaner/filter. Lightly tap and shake the engine air cleaner/filter (away from the vehicle), to release loose dust and dirt. Inspect the engine air cleaner/filter for damage, and replace if damaged. Do not clean the engine air cleaner/filter or components with water or compressed air.

To inspect or replace the air filter:

1. Open the hood. See *Hood ⇨ 240*.
2. Locate the engine air cleaner/filter assembly on the passenger side of the engine compartment. See *Engine Compartment Overview ⇨ 242*.



3. Remove the five screws and lift the air cleaner/filter cover from the air cleaner/filter housing assembly.

How to Reinstall the Engine Air Filter

1. Install the air filter into the engine air cleaner/filter assembly. The outer air filter seal must be fitted properly in the engine air cleaner/filter assembly.
2. Replace the air cleaner/filter cover by lowering it to meet the bottom of the engine air cleaner/filter housing assembly.
3. Install the five screws to secure the air cleaner/filter cover to the air cleaner/filter housing assembly.

⚠ Warning

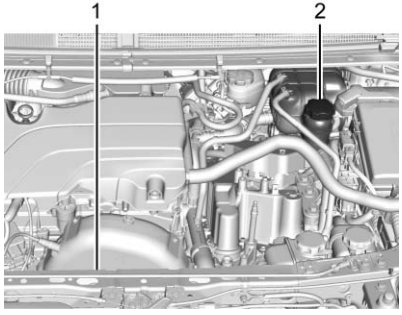
Operating the engine with the air cleaner/filter off can cause you or others to be burned. The air cleaner not only cleans the air; it helps to stop flames if the engine backfires. Use caution when working on the engine and do not drive with the air cleaner/filter off.

Caution

If the air cleaner/filter is off, dirt can easily get into the engine, which could damage it. Always have the air cleaner/filter in place when you are driving.

DEP DEALER E-PROCESS

Cooling System (Engine)



1. Engine Cooling Fans (Out of View)
2. Engine Coolant Surge Tank and Pressure Cap

⚠ Warning

The electric fans under the hood can start up even when the engine is not running and can cause injury. Keep hands, clothing, and tools away from any underhood electric fan.

If the coolant inside the coolant surge tank is boiling, do not do anything else until it cools down. The vehicle should be parked on a level surface.

The coolant level should be up to the cold fill line. If it is not, there might be a leak at the radiator hoses, heater hoses, radiator, water pump, or somewhere else in the cooling system.

⚠ Warning

Heater and radiator hoses, and other engine parts, can be very hot. Do not touch them. If you do, you can be burned.

Do not run the vehicle if there is a leak. If you run the engine, it could lose all coolant. That could cause an engine fire, and you could be burned. Get any leak fixed before you drive the vehicle.

If there seems to be no leak, with the engine on, check to see if the cooling fans are running. If the engine is overheating, the fans should be running. If it is not, the vehicle needs service. Turn off the vehicle.

Cooling System (High Voltage Battery)

During vehicle operation and also during charging, the high voltage battery cells in the vehicle are kept within a normal operating temperature range. If the high voltage battery cell temperature rises above the normal operating temperature range, the battery cooling system turns on the air conditioning compressor and cools the coolant until the correct battery cell temperature is reached. If the high voltage battery cell temperature falls below the normal operating temperature range, a high voltage heater, located in the battery, heats the coolant until the correct battery cell temperature is reached.

During high voltage battery system cooling, you may feel temperature changes at the air vents due to the extra load on the system.

DEALER E-PROCESS

What to Use

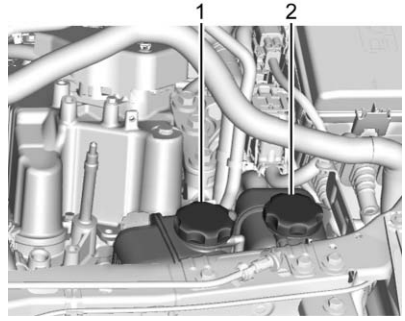
The high voltage battery coolant reservoir in the vehicle is filled with GM Premix DEX-COOL® engine coolant. See *Recommended Fluids and Lubricants* ⇨ *334*. If using this mixture, nothing else needs to be added.

The coolant needs to be replaced at the appropriate interval. See *Maintenance Schedule* ⇨ *326*.

Checking Coolant

The vehicle must be on a level surface when checking the coolant level.

The high voltage battery coolant reservoir is located in the engine compartment. See *Engine Compartment Overview* ⇨ *242*.



1. High Voltage Battery Coolant Reservoir
2. Power Electronics Coolant Reservoir

Check to see if coolant is visible in the high voltage battery coolant reservoir (1). If coolant is visible but the coolant level is below the cold fill line on the side of the reservoir, there could be a leak in the cooling system.

The high voltage battery cooling system supports the operation of sensitive electronics that are critical to vehicle operation.

DEP
DEALER E-PROCESS

The high voltage battery cooling system should only be serviced by a qualified technician.

Cooling System (Power Electronics and Charger Modules)

The power electronics and charger modules are cooled using the same coolant loop.

The power electronics and charger modules in the vehicle are kept below a maximum temperature threshold. If the coolant temperature rises above this temperature threshold, the electric cooling fans will turn on and cool the coolant until the correct temperature is reached.

What to Use

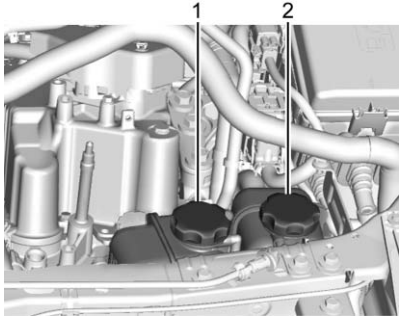
The power electronics and charger modules coolant reservoir in the vehicle is filled with GM Premix DEX-COOL engine coolant. See *Recommended Fluids and Lubricants* ⇨ *334*. If using this mixture, nothing else needs to be added.

The coolant needs to be replaced at the appropriate interval. See *Maintenance Schedule* ⇨ *326*.

Checking Coolant

The vehicle must be on a level surface when checking the coolant level.

The power electronics and charger modules coolant reservoir is located in the engine compartment. See *Engine Compartment Overview* ⇨ *242*.



1. High Voltage Battery Coolant Reservoir
2. Power Electronics Coolant Reservoir

Check to see if coolant is visible in the power electronics coolant reservoir (2). If coolant is visible but the coolant level is below the cold fill line on the side of the reservoir, there could be a leak in the cooling system.

The power electronics cooling system supports the operation of sensitive electronics.

The power electronics cooling system should only be serviced by a qualified technician.

Engine Coolant

The engine cooling system in the vehicle is filled with GM Premix DEX-COOL engine coolant. See *Recommended Fluids and Lubricants* ⇨ *334*. The coolant requires changing at certain intervals. See *Maintenance Schedule* ⇨ *326*.

The following explains the cooling system and how to check and add coolant when it is low. If there is a problem with engine overheating, see *Engine Overheating* ⇨ *253*.

What to Use

⚠ Warning

Adding only plain water or some other liquid to the cooling system can be dangerous. Plain water and other liquids, can boil before the proper coolant mixture will. The coolant warning system is set for the proper coolant mixture. With plain water or the wrong mixture, the engine could get too hot but you would not get the overheat warning. The engine could catch fire and you or others could be burned. Use GM Premix DEX-COOL coolant.

DEP
DEALER E-PROCESS

Use GM Premix DEX-COOL engine coolant. If using this mixture, nothing else needs to be added. This mixture:

- Gives freezing protection down to −37 °C (−34 °F), outside temperature.
- Gives boiling protection up to 129 °C (265 °F), engine temperature.
- Protects against rust and corrosion.
- Will not damage aluminum parts.
- Helps keep the proper engine temperature.

Caution

If improper coolant mixture, inhibitors, or additives are used in the vehicle cooling system, the engine could overheat and be damaged. Too much deionized water or clean drinkable water can freeze and crack engine cooling parts. The repairs would

(Continued)

Caution (Continued)

not be covered by the vehicle warranty. Use only the proper mixture of engine coolant for the cooling system. See *Recommended Fluids and Lubricants* ⇨ *334*.

Never dispose of engine coolant by putting it in the trash, pouring it on the ground, or into sewers, streams, or bodies of water. Have the coolant changed by an authorized service center, familiar with legal requirements regarding used coolant disposal. This will help protect the environment and your health.

Checking Coolant

The vehicle must be on a level surface when checking the coolant level.

Check to see if coolant is visible in the coolant surge tank. If the coolant inside the coolant surge tank is boiling, do not do anything else until it cools down. If coolant is visible but the coolant level is not at or above the cold fill mark, add GM Premix DEX-COOL engine coolant at the coolant surge tank, but be sure the cooling system is cool before this is done. See *Engine Overheating* ⇨ *253*.

The coolant reservoir is on the passenger side of the engine compartment. See *Engine Compartment Overview* ⇨ *242*.

The coolant level should be at or above the cold fill line on the coolant surge tank. If it is not, there could be a leak in the cooling system.

How to Add Coolant to the Coolant Surge Tank

⚠ Warning

You can be burned if you spill coolant on hot engine parts. Coolant contains ethylene glycol and it will burn if the engine parts are hot enough. Do not spill coolant on a hot engine.

DEALER E-PROCESS

Caution

This vehicle has a specific coolant fill procedure. Failure to follow this procedure could cause the engine to overheat and be severely damaged.

⚠ Warning

The electric fans under the hood can start up even when the engine is not running and can cause injury. Keep hands, clothing, and tools away from any underhood electric fan.

⚠ Warning

Steam and scalding liquids from a hot cooling system can blow out and burn you badly. They are under pressure, and if you turn the surge tank pressure cap — even a little — they can

(Continued)

Warning (Continued)

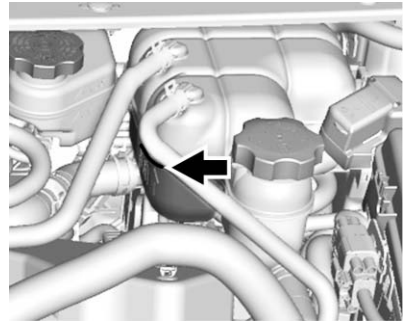
come out at high speed. Never turn the cap when the cooling system, including the surge tank pressure cap, is hot. Wait for the cooling system and surge tank pressure cap to cool if you ever have to turn the pressure cap.

If coolant is needed, add the proper GM Premix DEX-COOL engine coolant at the coolant surge tank.



The coolant surge tank pressure cap can be removed when the cooling system, including the surge tank pressure cap and upper radiator hose, is no longer hot.

1. Turn the pressure cap slowly counterclockwise. If a hiss is heard, wait for that to stop. A hiss means there is still some pressure left.
2. Keep turning the cap and remove it.



3. Fill the coolant surge tank with the proper mixture to the cold fill line.
4. Replace the pressure cap. Be sure the pressure cap is hand-tight and fully seated.

DEP
DEALER E-PROCESS

Caution

If the pressure cap is not tightly installed, coolant loss and possible engine damage may occur. Be sure the cap is properly and tightly secured.

Engine Overheating

The vehicle has an indicator to warn of engine overheating.

If the decision is made not to lift the hood when this warning appears, get service help right away. See *Roadside Assistance Program* ⇨ *345*.

If the decision is made to lift the hood, make sure the vehicle is parked on a level surface.

Then check to see if the engine cooling fan is running. If the engine is overheating, the fan should be running. If it is not, do not continue to run the vehicle, and have the vehicle serviced.

Caution

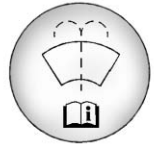
Running the engine without coolant may cause damage or a fire. Vehicle damage would not be covered by the vehicle warranty.

Washer Fluid

What to Use

When adding windshield washer fluid to the vehicle, be sure to read the manufacturer's instructions before use. If operating the vehicle in an area where the temperature may fall below freezing, use a fluid that has sufficient protection against freezing.

Adding Washer Fluid



DEP
DEALER E-PROCESS

Open the cap with the washer symbol on it. Add washer fluid until the tank is full. See *Engine Compartment Overview* ⇨ *242* for reservoir location.

Caution

- Do not use washer fluid that contains any type of water repellent coating. This can cause the wiper blades to chatter or skip.
- Do not use engine coolant (antifreeze) in the windshield washer. It can damage the windshield washer system and paint.
- Do not mix water with ready-to-use washer fluid. Water can cause the solution to freeze and damage the washer fluid tank and other parts of the washer system.

(Continued)

Caution (Continued)

- When using concentrated washer fluid, follow the manufacturer instructions for adding water.
- Fill the washer fluid tank only three-quarters full when it is very cold. This allows for fluid expansion if freezing occurs, which could damage the tank if it is completely full.

Brakes

Disc brake pads have built-in wear indicators that make a high-pitched warning sound when the brake pads are worn and new pads are needed. The sound can come and go or can be heard all the time when the vehicle is moving, except when applying the brake pedal firmly.

⚠ Warning

The brake wear warning sound means that soon the brakes will not work well. That could lead to a crash. When the brake wear warning sound is heard, have the vehicle serviced.

Caution

Continuing to drive with worn-out brake pads could result in costly brake repair.

Some driving conditions or climates can cause a brake squeal when the brakes are first applied or lightly applied. This does not mean something is wrong with the brakes.

Properly torqued wheel nuts are necessary to help prevent brake pulsation. When tires are rotated, inspect brake pads for wear and evenly tighten wheel nuts in the proper sequence to torque specifications. See *Capacities and Specifications* ⇨ *338*.

Brake pads should be replaced as complete sets.

Brake Pedal Travel

See your dealer if the brake pedal does not return to normal height, or if there is a rapid increase in pedal travel. This could be a sign that brake service may be required.

Replacing Brake System Parts

Always replace brake system parts with new, approved replacement parts. If this is not done, the brakes may not work properly. The braking performance expected can change in many other ways if the wrong replacement brake parts are installed or if parts are improperly installed.

Brake Fluid



DEALER E-PROCESS

The brake master cylinder reservoir is filled with GM approved DOT 3 brake fluid as indicated on the reservoir cap. See *Engine Compartment Overview* ⇨ *242* for the location of the reservoir.

Checking Brake Fluid

With the vehicle in P (Park) on a level surface, the brake fluid level should be between the minimum and maximum marks on the brake fluid reservoir.

There are only two reasons why the brake fluid level in the reservoir may go down:

- Normal brake lining wear. When new linings are installed, the fluid level goes back up.
- A fluid leak in the brake hydraulic system. Have the brake hydraulic system fixed. With a leak, the brakes will not work well.

Always clean the brake fluid reservoir cap and the area around the cap before removing it.

Do not top off the brake fluid. Adding fluid does not correct a leak. If fluid is added when the linings are worn, there will be too much fluid when new brake linings are installed. Add or remove fluid, as necessary, only when work is done on the brake hydraulic system.

⚠ Warning

If too much brake fluid is added, it can spill on the engine and burn, if the engine is hot enough. You or others could be burned, and the vehicle could be damaged. Add brake fluid only when work is done on the brake hydraulic system.

When the brake fluid falls to a low level, the brake warning light comes on. See *Brake System Warning Light* ⇨ *111*.

Brake fluid absorbs water over time which degrades the effectiveness of the brake fluid. Replace brake fluid at the specified intervals to prevent increased stopping distance. See *Maintenance Schedule* ⇨ *326*.

What to Add

Use only GM approved DOT 3 brake fluid from a clean, sealed container. See *Recommended Fluids and Lubricants* ⇨ *334*.

⚠ Warning

The wrong or contaminated brake fluid could result in damage to the brake system. This could result in the loss of braking leading to a possible injury. Always use the proper GM approved brake fluid.

Caution

If brake fluid is spilled on the vehicle's painted surfaces, the paint finish can be damaged. Immediately wash off any painted surface.

DEP DEALER E-PROCESS

Battery - North America

The original equipment battery is maintenance free. Do not remove the cap and do not add fluid.

This vehicle has a high voltage battery and a standard 12-volt battery. The 12-volt battery is in the rear hatch under the load floor.

If the vehicle is in a crash, the sensing system may shut down the high voltage system. When this occurs, the high voltage battery is disconnected and the vehicle will not start. The SERVICE VEHICLE SOON message in the Driver Information Center (DIC) will be displayed. Before the vehicle can be operated again, it must be serviced at your dealer.

See “If a Crash Occurs” under *Collision Damage Repair* ⇨ *348* and *High Voltage Safety Information* ⇨ *19*. If an airbag has inflated, see *What Will You See after an Airbag Inflates?* ⇨ *68*.

Only a trained service technician with the proper knowledge and tools should inspect, test, or replace the high voltage battery. See your dealer if the high voltage battery needs service. The dealer has information on how to recycle the high voltage battery. There is also information available at http://www.recyclemybattery.com.

Keep the vehicle plugged in, even when fully charged, to keep the high voltage battery temperature ready for the next drive. This is important when outside temperatures are extremely hot or cold.

A vehicle cover, which can reduce sun loading on the vehicle and improve high voltage battery life, is available from your dealer.

Refer to the replacement number shown on the original battery label when a new 12-volt battery is needed. The vehicle has an Absorbed Glass Mat (AGM) 12-volt battery. Installation of a standard 12-volt battery will result in reduced 12-volt battery life.

When using a 12-volt battery charger on the 12-volt AGM battery, some chargers have an AGM battery setting on the charger. If available, use the AGM setting on the charger, to limit charge voltage to 14.8 volts. Follow the charger manufacturer's instructions.

⚠ Warning

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Batteries also contain other chemicals known to the State of California to cause cancer. **WASH HANDS AFTER HANDLING.**

See *California Proposition 65 Warning* ⇨ *236*.

DEALER E-PROCESS

Vehicle Storage

⚠ Warning

Batteries have acid that can burn you and gas that can explode. You can be badly hurt if you are not careful. See *Jump Starting - North America* ⇨ *305* for tips on working around a battery without getting hurt.

Up to four weeks

- Plug in the high voltage battery charge cord if temperatures will exceed 35 °C (95 °F) and keep the 12-volt battery cables connected.

Four weeks to 12 months

- Discharge the high voltage battery until two or three bars remain on the battery range indicator (Battery symbol) on the instrument cluster.
- Do not plug in the high voltage battery charge cord.
- Remove the black negative (−) cable from the 12-volt battery. Attach a trickle charger to the battery terminals or keep the 12-volt battery cables connected and trickle charge from the underhood remote positive (+) and negative (−) terminals. See *Jump Starting - North America* ⇨ *305* for the location of these terminals.

Caution

The vehicle is equipped with an AGM/VRLA 12-volt battery, which can be damaged by using the incorrect type of trickle charger. An AGM/VRLA-compatible charger must be used, with the appropriate setting selected. Follow the trickle charger manufacturer instructions.

Reconnecting the 12-Volt Black Negative Cable

With the 12-volt black negative (−) cable disconnected, the hatch cannot be opened by pressing the hatch release button. If the hatch is closed and latched after power has been disconnected:

1. Use the door key to open the driver door.
2. Manually unlock and open one of the rear doors.
3. Lower one of the rear seatbacks.
4. Pull the load floor cover forward to access and reconnect the 12-volt battery black negative (−) cable.
5. After the cable has been connected, open the rear hatch and then tighten the cable.

After the battery cable is reconnected, it is possible that the vehicle may not operate in Electric Mode. If this happens, the high voltage battery may need to be charged.

DEP DEALER E-PROCESS

Electric Drive Unit Shift Lock Control Function Check

⚠ Warning

When you are doing this inspection, the vehicle could move suddenly. If the vehicle moves, you or others could be injured.

1. Before starting this check, be sure there is enough room around the vehicle. It should be parked on a level surface.
2. Firmly apply the parking brake. See *Electric Parking Brake* ⇨ *188*.

 Be ready to apply the regular brake immediately if the vehicle begins to move.
3. With the vehicle off and the brake not applied, press and hold POWER ⏻ for more than five seconds to place the vehicle in Service Only Mode. See *Power Button* ⇨ *175*. Without applying the regular brake, try to move the shift lever out of P (Park) with normal effort. If the shift lever moves out of P (Park), contact your dealer for service.

Park Brake and P (Park) Mechanism Check

⚠ Warning

When you are doing this check, the vehicle could begin to move. You or others could be injured and property could be damaged. Make sure there is room in front of the vehicle in case it begins to roll. Be ready to apply the regular brake at once should the vehicle begin to move.

Park on a fairly steep hill, with the vehicle facing downhill. Keeping your foot on the regular brake, set the Electric Parking Brake (EPB).

- To check the EPB's holding ability: With the propulsion system active and the electric drive unit in N (Neutral), slowly remove foot pressure from the regular brake pedal. Do this until the vehicle is held by the EPB only.
- To check the P (Park) mechanism's holding ability: With the propulsion system active, shift to P (Park). Then release the EPB followed by the regular brake.

Contact your dealer if service is required.

Wiper Blade Replacement

Windshield wiper blades should be inspected for wear and cracking. See the *Maintenance Schedule* ⇨ *326*.

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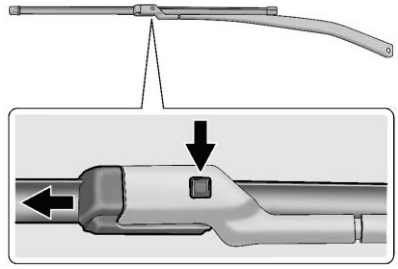
Replacement blades come in different types and are removed in different ways. For proper type and length, see *Maintenance Replacement Parts* ⇨ *335*.

Caution

Allowing the wiper arm to touch the windshield when no wiper blade is installed could damage the windshield. Any damage that occurs would not be covered by the vehicle warranty. Do not allow the wiper arm to touch the windshield.

To replace the windshield wiper blade:

1. Pull the windshield wiper assembly away from the windshield.



2. Press the button in the middle of the wiper arm connector, and pull the wiper blade away from the arm connector.
3. Remove the wiper blade.
4. Reverse Steps 1–3 for wiper blade replacement.

Headlamp Aiming

Headlamp aim has been preset and should need no further adjustment.

If the vehicle is damaged in a crash, the headlamp aim may be affected. If adjustment to the headlamps is necessary, see your dealer.

DEP DEALER E-PROCESS

Bulb Replacement

For the proper type of replacement bulbs, see *Replacement Bulbs* ⇨ *262*.

For any bulb-changing procedure not listed in this section, contact your dealer.

Halogen Bulbs

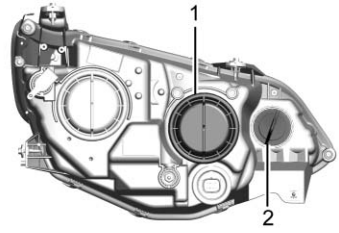
⚠ Warning

Halogen bulbs have pressurized gas inside and can burst if you drop or scratch the bulb. You or others could be injured. Be sure to read and follow the instructions on the bulb package.

LED Lighting

This vehicle has several LED lamps. For replacement of any LED lighting assembly, contact your dealer.

Headlamps



High-Beam Headlamps and Turn Signal Lamps

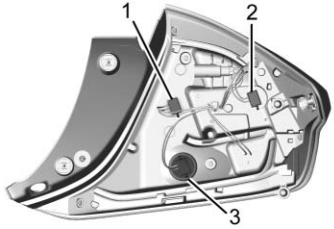
1. High-Beam Headlamp
2. Turn Signal Lamp

To replace a high-beam headlamp or turn signal lamp:

1. Open the hood. See *Hood* ⇨ *240*.
2. For the passenger side bulb, remove the windshield washer bottle filler neck by firmly pulling it straight up and out of the bottle.
3. Remove the cover from the back of the headlamp assembly by turning it counterclockwise.
4. Remove the bulb socket from the headlamp assembly by turning it counterclockwise.
5. Remove the bulb from the socket.
6. Install the new bulb in the socket.
7. Install the bulb socket by turning it clockwise.
8. Install the cover in the back of the headlamp assembly by turning it clockwise.
9. For the passenger side, reinstall the windshield washer bottle filler neck by firmly pushing it straight into the bottle.

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Taillamps

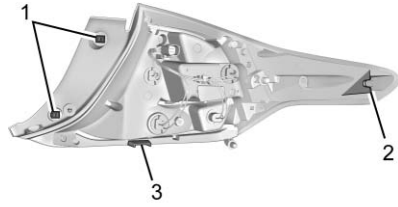


Taillamp, Turn Signal, and Reverse Lamps

1. Reverse Lamp
2. Turn Signal Lamp
3. Brake Lamp

To replace rear lamp bulbs:

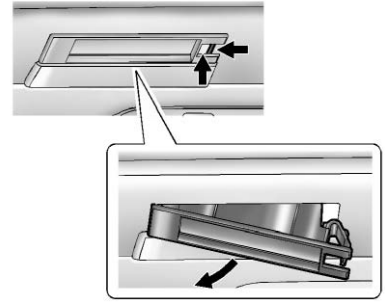
1. Open the hatch.
2. Remove the two Torx® screws and the other screw that secure the taillamp housing
3. Pull the taillamp housing away from the rear of the vehicle to remove.
4. Select the connector for the desired bulb on the back of the taillamp housing.
5. Turn the connector counterclockwise to remove it from the taillamp assembly.
6. Remove the bulb from the taillamp assembly. Hold the connector and pull on the bulb to disconnect it from the wiring harness.
7. Install a new bulb into the wiring connector.
8. Reinstall the connector by inserting it into the taillamp housing and turning clockwise.



9. Reinstall the taillamp housing by aligning the two pins (1) on the back of the housing with the rubber anchors in the vehicle body. Be sure to align the slot (2) on the housing with the corresponding post on the vehicle body, and the plastic tab (3) with the plastic slot on the vehicle body.
10. Push until the housing fits securely in place and is fastened at all four locations.
11. Reinstall the two Torx® screws, and the other screw.

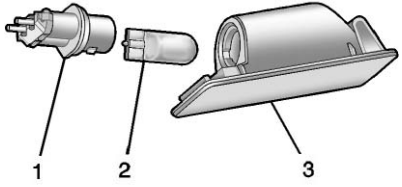
License Plate Lamp

To replace one of these bulbs:



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1. Press the spring clip on the right end of the lamp assembly to the left to unlock the lamp assembly.
2. Pull down on the lamp assembly to remove it from the fascia.



3. Turn the bulb socket (1) counterclockwise to remove it from the lamp assembly (3).
4. Pull the bulb (2) straight out of the bulb socket (1).
5. Push the replacement bulb straight into the bulb socket (1) and turn the bulb socket (1) clockwise to install it into the lamp assembly (3).
6. Reinstall the lamp assembly (3) into the fascia by inserting the left side first.
7. Push the spring clip side into place.

Replacement Bulbs

Lamp	Bulb Number
High-Beam Lamps	9005
Turn Signal Lamps	7443NA
Brake Lamps	7443
Reverse Lamps	7440
License Plate Lamps	5W5 LL

For replacement bulbs not listed here, contact your dealer.

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Electrical System

High Voltage Devices and Wiring

⚠ Warning

Exposure to high voltage can cause shock, burns, and even death. The high voltage components in the vehicle can only be serviced by technicians with special training.

High voltage components are identified by labels. Do not remove, open, take apart, or modify these components. High voltage cable or wiring has orange covering or labels. Do not probe, tamper with, cut, or modify high voltage cable or wiring.

Electrical System Overload

The vehicle has fuses and circuit breakers to protect against an electrical system overload.

When the current electrical load is too heavy, the circuit breaker opens and closes, protecting the circuit until the current load returns to normal or the problem is fixed. This greatly reduces the chance of circuit overload and fire caused by electrical problems.

Fuses and circuit breakers protect the following in the vehicle:

- Headlamp Wiring
- Windshield Wiper Motor
- Power Windows and other Power Accessories

Replace a bad fuse with a new one of the identical size and rating.

If there is a problem on the road and a fuse needs to be replaced, the same amperage fuse can be borrowed. Choose some feature of the vehicle that is not needed to use and replace it as soon as possible.

Headlamp Wiring

An electrical overload may cause the lamps to go on and off, or in some cases to remain off. Have the headlamp wiring checked right away if the lamps go on and off or remain off.

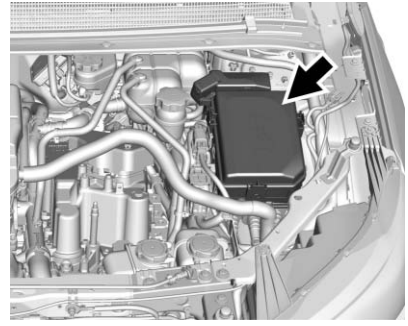
Windshield Wipers

If the wiper motor overheats due to heavy snow or ice, the windshield wipers will stop until the motor cools and the wiper control is turned off. After removal of the blockage, the wiper motor will restart when the control is then moved to the desired operating position.

Although the circuit is protected from electrical overload, overload due to heavy snow or ice, may cause wiper damage. Always clear ice and heavy snow from the windshield before using the windshield wipers.

If the overload is caused by an electrical problem and not snow or ice, be sure to get it fixed.

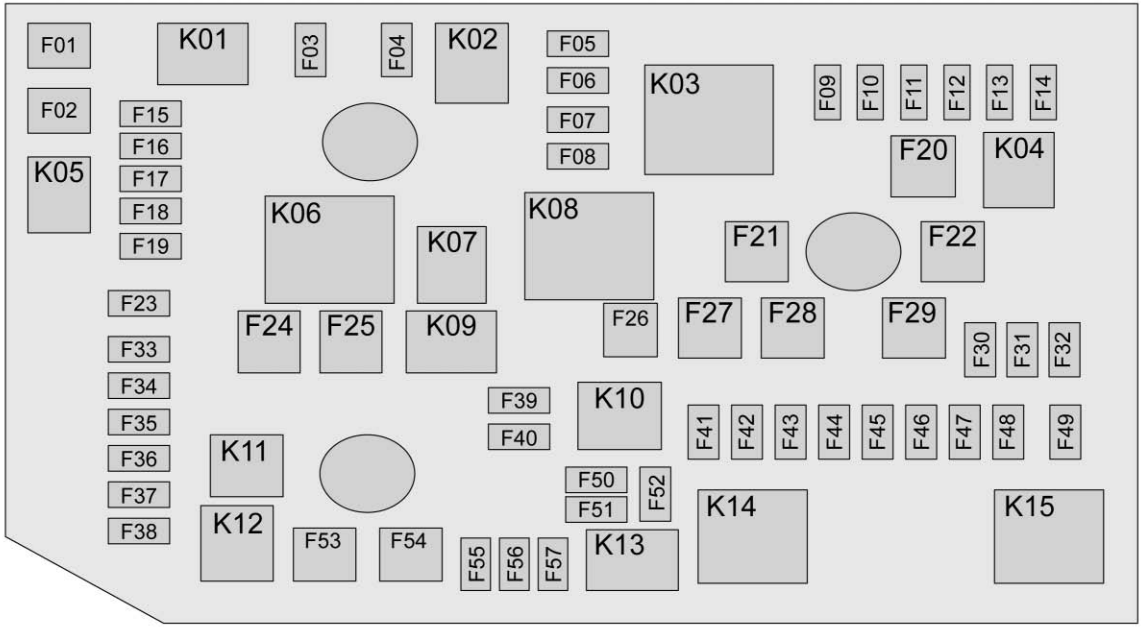
Engine Compartment Fuse Block



To open the fuse block cover, press the clips at the side and back and pull the cover up.

Caution
Spilling liquid on any electrical component on the vehicle may damage it. Always keep the covers on any electrical component.

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Engine Compartment Fuse Block

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A fuse puller is in the engine compartment fuse block.

The vehicle may not be equipped with all of the fuses, relays, and features shown.

Fuses	Usage
F01	–
F02	–
F03	Non walk home
F04	Engine control module
F05	Aeroshutter
F06	Traction power inverter module 1
F07	Traction power inverter module 2
F08	Engine control module
F09	A/C module
F10	Vehicle integration control module
F11	Electric brake boost
F12	Rechargeable energy storage system
F13	Cabin heater control module
F14	Coolant heater control module
F15	Emissions
F16	Ignition coils
F17	Engine control module
F18	–
F19	–
F20	Electric brake boost
F21	Front wiper
F22	ABS pump
F23	Front windshield wiper
F24	–
F25	–
F26	–
F27	ABS module
F28	Left power window
F29	Rear window defogger
F30	Heated mirrors
F31	–
F32	Variable functions
F33	–
F34	Horn
F35	Coolant rechargeable energy storage system pump
F36	Right high-beam headlamp
F37	Left high-beam headlamp
F38	–
F39	–
F40	–
F41	Miscellaneous run/Crank
F42	Run/Crank 3
F43	–
F44	Voltage current temperature module run/Crank
F45	Heated steering wheel
F46	Vehicle integration control module run/Crank
F47	–
F48	–

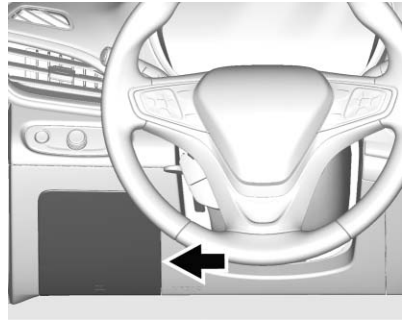
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Fuses	Usage
F49	–
F50	–
F51	–
F52	Engine control module/ Traction power inverter module
F53	Left cooling fan
F54	Right cooling fan
F55	Electric pump
F56	–
F57	–

Relays	Usage
K01	–
K02	–
K03	Engine control module
K04	–
K05	–
K06	–
K07	–

Relays	Usage
K08	–
K09	–
K10	–
K11	–
K12	High-beam headlamps
K13	–
K14	Run/Crank
K15	Rear window defogger
K16	Horn PCB relay
K17	–
K18	–
K19	Coolant pump PCB relay
K20	–
K21	–
K22	Front washer
K23	–

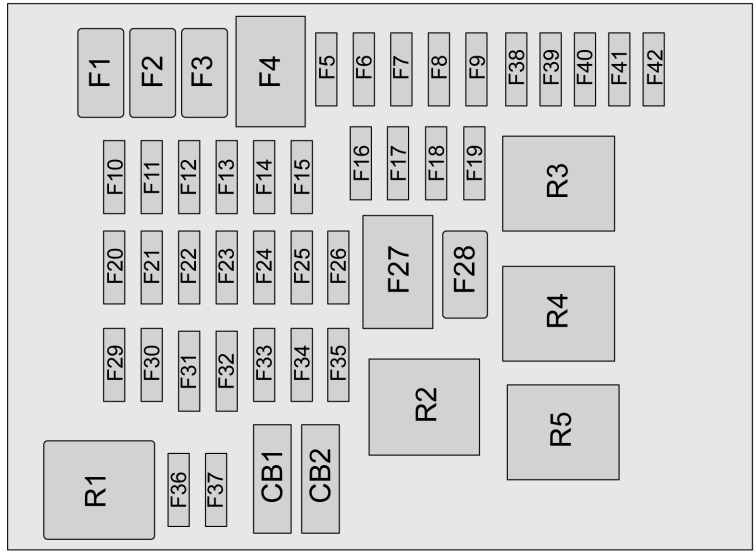
Instrument Panel Fuse Block



The instrument panel fuse block is on the left side of the instrument panel. To access the fuses, open the fuse panel door by pulling out.

To reinstall the door, insert the top tab first, then push the door back into its original location.

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Instrument Panel Fuse Block

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A fuse puller is in the engine compartment fuse block.

The vehicle may not be equipped with all of the fuses, relays, and features shown.

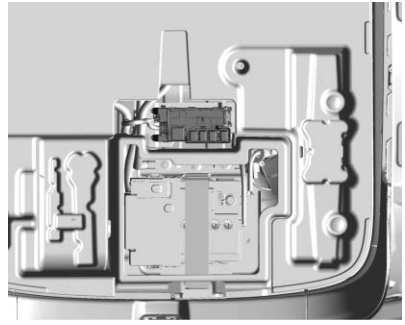
Fuses	Usage
F1	–
F2	–
F3	–
F4	HVAC blower
F5	Body control module 2
F6	–
F7	–
F8	Body control module 3
F9	Fuel power pump module
F10	–
F11	–
F12	–
F13	–
F14	–
F15	–
F16	–
F17	Data link connector
F18	Body control module 7
F19	Cluster
F20	Body control module 1
F21	Body control module 4
F22	Body control module 6
F23	OnStar
F24	Airbag
F25	Display
F26	Infotainment
F27	–
F28	–
F29	Overhead console
F30	Radio
F31	Steering wheel controls
F32	Body control module 8
F33	HVAC/Integrated light solar sensor
F34	Passive entry/ Passive start
F35	Rear closure
F36	Charger
F37	–
F38	–
F39	–
F40	–
F41	–
F42	–

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Circuit Breakers	Usage
CB1	Front auxiliary power outlet
CB2	Rear auxiliary power outlet

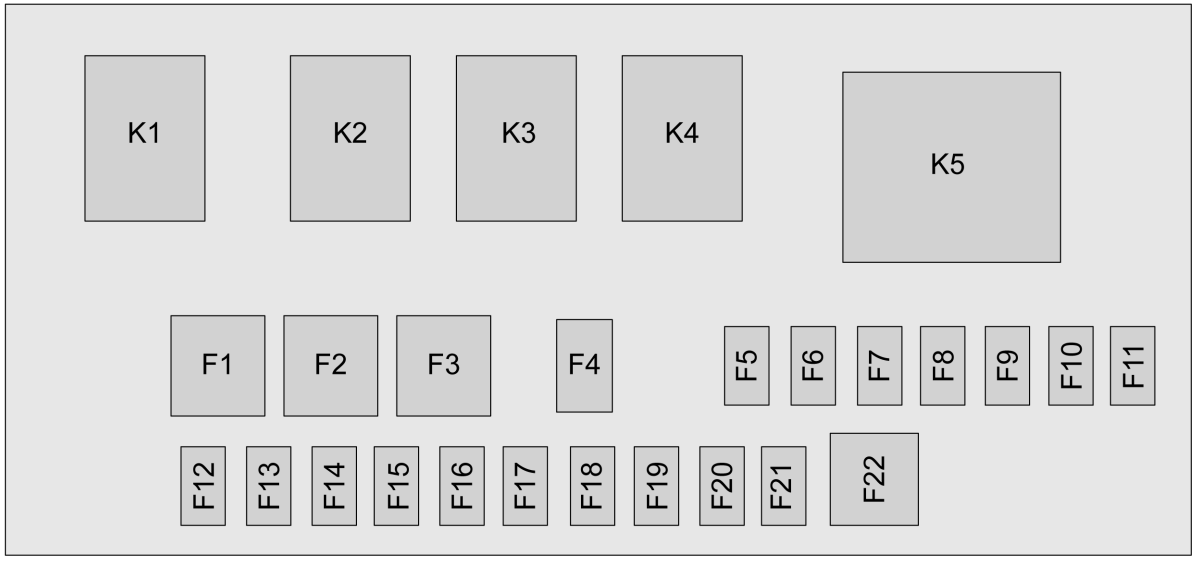
Relays	Usage
R1	–
R2	Retained accessory power
R3	Hatch
R4	–
R5	–

Rear Compartment Fuse Block



The rear compartment fuse block is in the center of the rear compartment under the load floor. Open the rear load floor door and remove the cover to access the fuse block.

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A fuse puller is in the engine compartment fuse block.

The vehicle may not have all of the fuses, relays, and features shown.

Fuses	Usage
F1	–
F2	–
F3	–
F4	–
F5	Pedestrian protection
F6	On-board charger module
F7	Front heated seat
F8	Front heated seat
F9	Driver door/Mirror switches
F10	–
F11	Amplifier
F12	Steering wheel switch backlighting
F13	–
F14	–
F15	–
F16	–
F17	–
F18	–
F19	Obstacle detection
F20	Fuel
F21	Rear heated seat
F22	Right power windows

Relays	Usage
K1	–
K2	–
K3	–
K4	–
K5	–

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Wheels and Tires

Tires

Every new GM vehicle has high-quality tires made by a leading tire manufacturer. See the warranty manual for information regarding the tire warranty and where to get service. For additional information refer to the tire manufacturer.

⚠ Warning

- Poorly maintained and improperly used tires are dangerous.
- Overloading the tires can cause overheating as a result of too much flexing. There could be a blowout and a serious crash. See *Vehicle Load Limits* ⇨ *171*.

(Continued)

Warning (Continued)

- Underinflated tires pose the same danger as overloaded tires. The resulting crash could cause serious injury. Check all tires frequently to maintain the recommended pressure. Tire pressure should be checked when the tires are cold.
- Overinflated tires are more likely to be cut, punctured, or broken by a sudden impact — such as when hitting a pothole. Keep tires at the recommended pressure.
- Worn or old tires can cause a crash. If the tread is badly worn, replace them.

(Continued)

Warning (Continued)

- Replace any tires that have been damaged by impacts with potholes, curbs, etc.
- Improperly repaired tires can cause a crash. Only the dealer or an authorized tire service center should repair, replace, dismount, and mount the tires.
- Do not spin the tires in excess of 56 km/h (35 mph) on slippery surfaces such as snow, mud, ice, etc. Excessive spinning may cause the tires to explode.

All-Season Tires

This vehicle may come with all-season tires. These tires are designed to provide good overall performance on most road surfaces and weather conditions. Original equipment tires designed to GM's specific tire performance criteria have a TPC specification code molded onto the sidewall. Original equipment all-season tires can be identified by the last two characters of this TPC code, which will be “MS.”

Consider installing winter tires on the vehicle if frequent driving on snow or ice-covered roads is expected. All-season tires provide adequate performance for most winter driving conditions, but they may not offer the same level of traction or performance as winter tires on snow or ice-covered roads. See *Winter Tires* ⇨ 272.

Winter Tires

This vehicle was not originally equipped with winter tires. Winter tires are designed for increased traction on snow and ice-covered roads. Consider installing winter tires on the vehicle if frequent driving on ice or snow covered roads is expected. See your dealer

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for details regarding winter tire availability and proper tire selection. Also, see *Buying New Tires* ⇨ *286*.

With winter tires, there may be decreased dry road traction, increased road noise, and shorter tread life. After changing to winter tires, be alert for changes in vehicle handling and braking.

If using winter tires:

- Use tires of the same brand and tread type on all four wheel positions.
- Use only radial ply tires of the same size, load range, and speed rating as the original equipment tires.

Winter tires with the same speed rating as the original equipment tires may not be available for H, V, W, Y, and ZR speed rated tires. If winter tires with a lower speed rating are chosen, never exceed the tire's maximum speed capability.

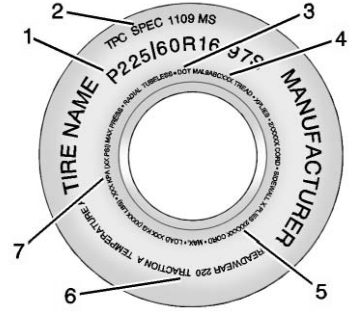
Low-Profile Tires

If the vehicle has 215/50R17 size tires, they are classified as low-profile tires.

Caution
Low-profile tires are more susceptible to damage from road hazards or curb impact than standard profile tires. Tire and/or wheel assembly damage can occur when coming into contact with road hazards like potholes, or sharp edged objects, or when sliding into a curb. The warranty does not cover this type of damage. Keep tires set to the correct inflation pressure and when possible, avoid contact with curbs, potholes, and other road hazards.

Tire Sidewall Labeling

Useful information about a tire is molded into its sidewall. The examples show a typical passenger vehicle tire and a compact spare tire sidewall.



Passenger (P-Metric) Tire Example

(1) Tire Size : The tire size is a combination of letters and numbers used to define a particular tire's width, height, aspect ratio, construction type, and service description. See the “Tire Size” illustration later in this section.

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(2) TPC Spec (Tire Performance Criteria Specification) : Original equipment tires designed to GM's specific tire performance criteria have a TPC specification code molded onto the sidewall. GM's TPC specifications meet or exceed all federal safety guidelines.

(3) DOT (Department of Transportation) : The Department of Transportation (DOT) code indicates that the tire is in compliance with the U.S. Department of Transportation Motor Vehicle Safety Standards.

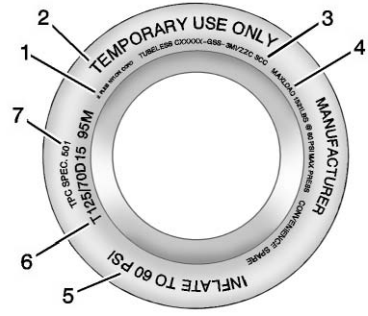
DOT Tire Date of Manufacture : The last four digits of the TIN indicate the tire manufactured date. The first two digits represent the week (01–52) and the last two digits, the year. For example, the third week of the year 2010 would have a four-digit DOT date of 0310.

(4) Tire Identification Number (TIN) : The letters and numbers following the DOT (Department of Transportation) code are the Tire Identification Number (TIN). The TIN shows the manufacturer and plant code, tire size, and date the tire was manufactured. The TIN is molded onto both sides of the tire, although only one side may have the date of manufacture.

(5) Tire Ply Material : The type of cord and number of plies in the sidewall and under the tread.

(6) Uniform Tire Quality Grading (UTQG) : Tire manufacturers are required to grade tires based on three performance factors: treadwear, traction, and temperature resistance. For more information see *Uniform Tire Quality Grading* ⇨ *288*.

(7) Maximum Cold Inflation Load Limit : Maximum load that can be carried and the maximum pressure needed to support that load.



Compact Spare Tire Example

(1) Tire Ply Material : The type of cord and number of plies in the sidewall and under the tread.

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(2) Temporary Use Only : The compact spare tire or temporary use tire should not be driven at speeds over 80 km/h (50 mph). The compact spare tire is for emergency use when a regular road tire has lost air and gone flat. If the vehicle has a compact spare tire, see *Compact Spare Tire ⇨ 304* and *If a Tire Goes Flat ⇨ 291*.

(3) Tire Identification Number (TIN) : The letters and numbers following the DOT (Department of Transportation) code are the Tire Identification Number (TIN). The TIN shows the manufacturer and plant code, tire size, and date the tire was manufactured. The TIN is molded onto both sides of the tire, although only one side may have the date of manufacture.

(4) Maximum Cold Inflation Load Limit : Maximum load that can be carried and the maximum pressure needed to support that load.

(5) Tire Inflation : The temporary use tire or compact spare tire should be inflated to 420 kPa (60 psi). For more information on tire pressure and inflation see *Tire Pressure ⇨ 278*.

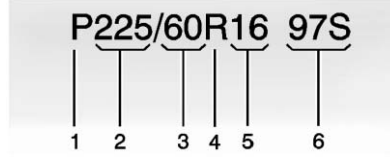
(6) Tire Size : A combination of letters and numbers define a tire's width, height, aspect ratio, construction type, and service description. The letter T as the first character in the tire size means the tire is for temporary use only.

(7) TPC Spec (Tire Performance Criteria Specification) : Original equipment tires designed to GM's specific tire performance criteria have a TPC specification code molded onto the sidewall. GM's TPC specifications meet or exceed all federal safety guidelines.

Tire Designations

Tire Size

The following is an example of a typical passenger vehicle tire size.



(1) Passenger (P-Metric) Tire : The United States version of a metric tire sizing system. The letter P as the first character in the tire size means a passenger vehicle tire engineered to standards set by the U.S. Tire and Rim Association.

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(2) Tire Width : The three-digit number indicates the tire section width in millimeters from sidewall to sidewall.

(3) Aspect Ratio : A two-digit number that indicates the tire height-to-width measurements. For example, if the tire size aspect ratio is 60, as shown in item 3 of the illustration, it would mean that the tire's sidewall is 60 percent as high as it is wide.

(4) Construction Code : A letter code is used to indicate the type of ply construction in the tire. The letter R means radial ply construction; the letter D means diagonal or bias ply construction; and the letter B means belted-bias ply construction.

(5) Rim Diameter : Diameter of the wheel in inches.

(6) Service Description : These characters represent the load index and speed rating of the tire. The load index represents the load carrying capacity a tire is certified to carry. The speed rating is the maximum speed a tire is certified to carry a load.

Tire Terminology and Definitions

Air Pressure : The amount of air inside the tire pressing outward on each square inch of the tire. Air pressure is expressed in kPa (kilopascal) or psi (pounds per square inch).

Accessory Weight : The combined weight of optional accessories. Some examples of optional accessories are, electric drive unit, power windows, power seats, and air conditioning.

Aspect Ratio : The relationship of a tire's height to its width.

Belt : A rubber coated layer of cords that is located between the plies and the tread. Cords may be made from steel or other reinforcing materials.

Bead : The tire bead contains steel wires wrapped by steel cords that hold the tire onto the rim.

Bias Ply Tire : A pneumatic tire in which the plies are laid at alternate angles less than 90 degrees to the centerline of the tread.

Cold Tire Pressure : The amount of air pressure in a tire, measured in kPa (kilopascal) or psi (pounds per square inch) before a tire has built up heat from driving. See *Tire Pressure ⇨ 278*.

Curb Weight : The weight of a motor vehicle with standard and optional equipment including the

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maximum capacity of fuel, oil, and coolant, but without passengers and cargo.

DOT Markings : A code molded into the sidewall of a tire signifying that the tire is in compliance with the U.S. Department of Transportation (DOT) Motor Vehicle Safety Standards. The DOT code includes the Tire Identification Number (TIN), an alphanumeric designator which can also identify the tire manufacturer, production plant, brand, and date of production.

GAWR FRT : Gross Axle Weight Rating for the front axle. See *Vehicle Load Limits ⇨ 171*.

GAWR RR : Gross Axle Weight Rating for the rear axle. See *Vehicle Load Limits ⇨ 171*.

GVWR : Gross Vehicle Weight Rating. See *Vehicle Load Limits ⇨ 171*.

Intended Outboard Sidewall : The side of an asymmetrical tire, that must always face outward when mounted on a vehicle.

Kilopascal (kPa) : The metric unit for air pressure.

Light Truck (LT-Metric) Tire : A tire used on light duty trucks and some multipurpose passenger vehicles.

Load Index : An assigned number ranging from 1 to 279 that corresponds to the load carrying capacity of a tire.

Maximum Inflation Pressure : The maximum air pressure to which a cold tire can be inflated. The maximum air pressure is molded onto the sidewall.

Maximum Load Rating : The load rating for a tire at the maximum permissible inflation pressure for that tire.

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Maximum Loaded Vehicle Weight : The sum of curb weight, accessory weight, vehicle capacity weight, and production options weight.

Normal Occupant Weight : The number of occupants a vehicle is designed to seat multiplied by 68 kg (150 lbs). See *Vehicle Load Limits ⇨ 171*.

Occupant Distribution : Designated seating positions.

Outward Facing Sidewall : The side of an asymmetrical tire that has a particular side that faces outward when mounted on a vehicle. The side of the tire that contains a whitewall, bears white lettering, or bears manufacturer, brand, and/or model name molding that is higher or deeper than the same moldings on the other sidewall of the tire.

Passenger (P-Metric) Tire : A tire used on passenger cars and some light duty trucks and multipurpose vehicles.

Recommended Inflation Pressure : Vehicle manufacturer's recommended tire inflation pressure as shown on the tire placard. See *Tire Pressure ⇨ 278* and *Vehicle Load Limits ⇨ 171*.

Radial Ply Tire : A pneumatic tire in which the ply cords that extend to the beads are laid at 90 degrees to the centerline of the tread.

Rim : A metal support for a tire and upon which the tire beads are seated.

Sidewall : The portion of a tire between the tread and the bead.

Speed Rating : An alphanumeric code assigned to a tire indicating the maximum speed at which a tire can operate.

Traction : The friction between the tire and the road surface. The amount of grip provided.

Tread : The portion of a tire that comes into contact with the road.

Treadwear Indicators : Narrow bands, sometimes called wear bars, that show across the tread of a tire when only 1.6 mm (1/16 in) of tread remains. See *When It Is Time for New Tires ⇨ 285*.

UTQGS (Uniform Tire Quality Grading Standards) : A tire information system that provides consumers with ratings for a tire's traction, temperature, and treadwear. Ratings are determined by tire manufacturers using government testing procedures. The ratings are molded into the sidewall of the tire. See *Uniform Tire Quality Grading ⇨ 288*.

Vehicle Capacity Weight : The number of designated seating positions multiplied by 68 kg (150 lbs) plus the rated cargo load. See *Vehicle Load Limits ⇨ 171*.

Vehicle Maximum Load on the Tire : Load on an individual tire due to curb weight, accessory weight, occupant weight, and cargo weight.

Vehicle Placard : A label permanently attached to a vehicle showing the vehicle's capacity weight and the original equipment tire size and recommended inflation pressure. See “Tire and Loading Information Label” under *Vehicle Load Limits ⇨ 171*.

Tire Pressure

Tires need the correct amount of air pressure to operate effectively.

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Caution

Neither tire underinflation nor overinflation is good. Underinflated tires, or tires that do not have enough air, can result in:

- Tire overloading and overheating which could lead to a blowout.
- Premature or irregular wear.
- Poor handling.
- Reduced fuel economy.

Overinflated tires, or tires that have too much air, can result in:

- Unusual wear.
- Poor handling.
- Rough ride.
- Needless damage from road hazards.

The Tire and Loading Information label on the vehicle indicates the original equipment tires and the correct cold tire inflation pressures. The recommended pressure is the minimum air pressure needed to support the vehicle's maximum load carrying capacity. See *Vehicle Load Limits* ⇨ *171*.

How the vehicle is loaded affects vehicle handling and ride comfort. Never load the vehicle with more weight than it was designed to carry.

When to Check

Check the tires once a month or more. Do not forget the compact spare, if the vehicle has one. The cold compact spare tire pressure should be at 420 kPa (60 psi). See *Compact Spare Tire* ⇨ *304*.

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How to Check

Use a good quality pocket-type gauge to check tire pressure. Proper tire inflation cannot be determined by looking at the tire. Check the tire inflation pressure when the tires are cold, meaning the vehicle has not been driven for at least three hours or no more than 1.6 km (1 mi).

Remove the valve cap from the tire valve stem. Press the tire gauge firmly onto the valve to get a pressure measurement. If the cold tire inflation pressure matches the recommended pressure on the Tire and Loading Information label, no further adjustment is necessary. If the inflation pressure is low, add air until the recommended pressure is reached. If the inflation pressure is high, press on the metal stem in the center of the tire valve to release air.

Recheck the tire pressure with the tire gauge.

Put the valve caps back on the valve stems to keep out dirt and moisture and prevent leaks. Use only valve caps designed for the vehicle by GM. TPMS sensors could be damaged and would not be covered by the vehicle warranty.

Tire Pressure Monitor System

The Tire Pressure Monitor System (TPMS) uses radio and sensor technology to check tire pressure levels. The TPMS sensors monitor the air pressure in your tires and transmit tire pressure readings to a receiver located in the vehicle.

Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a tire pressure monitoring system (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated.

Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists.

When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle to ensure that the replacement or

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alternate tires and wheels allow the TPMS to continue to function properly.

See *Tire Pressure Monitor Operation* ⇨ *281*.

See *Radio Frequency Statement* ⇨ *351*.

Tire Pressure Monitor Operation

This vehicle may have a Tire Pressure Monitor System (TPMS). The TPMS is designed to warn the driver when a low tire pressure condition exists. TPMS sensors are mounted onto each tire and wheel assembly, excluding the spare tire and wheel assembly. The TPMS sensors monitor the air pressure in the tires and transmits the tire pressure readings to a receiver located in the vehicle.



When a low tire pressure condition is detected, the TPMS illuminates the low tire pressure warning light located on the instrument cluster. If the warning light comes on, stop as soon as possible and inflate the tires to the recommended pressure shown on the Tire and Loading Information label. See *Vehicle Load Limits* ⇨ *171*.

A message to check the pressure in a specific tire displays in the Driver Information Center (DIC). The low tire pressure warning light and the DIC warning message come on at each ignition cycle until the tires are inflated to the correct inflation pressure. Using the DIC, tire pressure levels can be viewed. For additional information and details about the DIC operation and displays see *Driver Information Center (DIC)* ⇨ *130*.

The low tire pressure warning light may come on in cool weather when the vehicle is first started, and then turn off as the vehicle is driven. This could be an early indicator that the air pressure is getting low and needs to be inflated to the proper pressure.

A Tire and Loading Information label, attached to your vehicle, shows the size of the original equipment tires and the correct inflation pressure for the tires when they are cold. See *Vehicle Load Limits* ⇨ *171*, for an example of the Tire and Loading Information label and its location. Also see *Tire Pressure* ⇨ *278*.

The TPMS can warn about a low tire pressure condition but it does not replace normal tire maintenance. See *Tire Inspection* ⇨ *284*, *Tire Rotation* ⇨ *284* and *Tires* ⇨ *271*.

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Caution

Tire sealant materials are not all the same. A non-approved tire sealant could damage the TPMS sensors. TPMS sensor damage caused by using an incorrect tire sealant is not covered by the vehicle warranty. Always use only the GM approved tire sealant available through your dealer or included in the vehicle.

Factory-installed Tire Inflator Kits use a GM-approved liquid tire sealant. Using non-approved tire sealants could damage the TPMS sensors. See *Tire Sealant and Compressor Kit* ⇨ *293* for information regarding the inflator kit materials and instructions.

TPMS Malfunction Light and Message

The TPMS will not function properly if one or more of the TPMS sensors are missing or inoperable. When the system detects a malfunction, the low tire warning light flashes for about one minute and then stays on for the remainder of the ignition cycle. A DIC warning message also displays. The malfunction light and DIC warning message come on at each ignition cycle until the problem is corrected. Some of the conditions that can cause these to come on are:

- One of the road tires has been replaced with the spare tire. The spare tire does not have a TPMS sensor. The malfunction light and DIC message should go off after the road tire is replaced and the sensor matching process is performed successfully. See “TPMS Sensor Matching Process” later in this section.
- The TPMS sensor matching process was not done or not completed successfully after rotating the tires. The malfunction light and the DIC message should go off after successfully completing the sensor matching process. See "TPMS Sensor Matching Process" later in this section.
- One or more TPMS sensors are missing or damaged. The malfunction light and the DIC message should go off when the TPMS sensors are installed and the sensor matching process is performed successfully. See your dealer for service.
- Replacement tires or wheels do not match the original equipment tires or wheels. Tires and wheels other than those recommended could prevent the TPMS from functioning properly. See *Buying New Tires* ⇨ *286*.
- Operating electronic devices or being near facilities using radio wave frequencies similar to the TPMS could cause the TPMS sensors to malfunction.

If the TPMS is not functioning properly it cannot detect or signal a low tire condition. See your dealer for service if the TPMS malfunction light and DIC message comes on and stays on.

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TPMS Sensor Matching Process

Each TPMS sensor has a unique identification code. The identification code needs to be matched to a new tire/wheel position after rotating the vehicle's tires or replacing one or more of the TPMS sensors. The TPMS sensor matching process should also be performed after replacing a spare tire with a road tire containing the TPMS sensor. The malfunction light and the DIC message should go off at the next ignition cycle. The sensors are matched to the tire/wheel positions, using a TPMS relearn tool, in the following order: driver side front tire, passenger side front tire, passenger side rear tire, and driver side rear. See your dealer for service or to purchase a relearn tool. A TPMS relearn tool can also be purchased. See Tire Pressure Monitor Sensor Activation Tool at www.gmtoolsandequipment.com or call 1-800-GM TOOLS (1-800-468-6657).

There are two minutes to match the first tire/wheel position, and five minutes overall to match all four tire/wheel positions. If it takes longer, the matching process stops and must be restarted.

The TPMS sensor matching process is:

1. Set the parking brake.
2. Place the vehicle in ON/RUN. See *Power Button* ⇨ *175*.
3. Make sure the Tire Pressure info page option is turned on. The info pages on the DIC can be turned on and off through the Settings menu. See *Driver Information Center (DIC)* ⇨ *130*.
4. Use the DIC controls on the right side of the steering wheel to scroll to the Tire Pressure screen under the DIC info page.
5. Press and hold the ✓ (Set/Reset) button located in the center of the DIC controls. The horn sounds twice to signal the receiver is in relearn mode and the TIRE LEARNING ACTIVE message displays on the DIC screen.
6. Start with the driver side front tire.
7. Place the relearn tool against the tire sidewall, near the valve stem. Then press the button to activate the TPMS sensor. A horn chirp confirms that the sensor identification code has been matched to this tire and wheel position.
8. Proceed to the passenger side front tire, and repeat the procedure in Step 7.
9. Proceed to the passenger side rear tire, and repeat the procedure in Step 7.
10. Proceed to the driver side rear tire, and repeat the procedure in Step 7. The horn sounds two times to indicate the sensor identification code has been matched to the driver side rear tire, and the TPMS sensor

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matching process is no longer active. The TIRE LEARNING ACTIVE message on the DIC display screen goes off.

11. Turn the vehicle off.
12. Set all four tires to the recommended air pressure level as indicated on the Tire and Loading Information label.

Tire Inspection

We recommend that the tires, including the spare tire, if the vehicle has one, be inspected for signs of wear or damage at least once a month.

Replace the tire if:

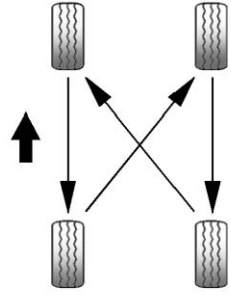
- The indicators at three or more places around the tire can be seen.
- There is cord or fabric showing through the tire's rubber.
- The tread or sidewall is cracked, cut, or snagged deep enough to show cord or fabric.
- The tire has a bump, bulge, or split.
- The tire has a puncture, cut, or other damage that cannot be repaired well because of the size or location of the damage.

Tire Rotation

Tires should be rotated every 12 000 km (7,500 mi). See *Maintenance Schedule* ⇨ *326*.

Tires are rotated to achieve a uniform wear for all tires. The first rotation is the most important.

Anytime unusual wear is noticed, rotate the tires as soon as possible, check for proper tire inflation pressure, and check for damaged tires or wheels. If the unusual wear continues after the rotation, check the wheel alignment. See *When It Is Time for New Tires* ⇨ *285* and *Wheel Replacement* ⇨ *289*.



Use this rotation pattern when rotating the tires.

If the vehicle has a compact spare tire, do not include it in the tire rotation.

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Adjust the front and rear tires to the recommended inflation pressure on the Tire and Loading Information label after the tires have been rotated. See *Tire Pressure* ⇨ *278* and *Vehicle Load Limits* ⇨ *171*.

Reset the Tire Pressure Monitor System. See *Tire Pressure Monitor Operation* ⇨ *281*.

Check that all wheel nuts are properly tightened. See "Wheel Nut Torque" under *Capacities and Specifications* ⇨ *338*.

⚠ Warning

Rust or dirt on a wheel, or on the parts to which it is fastened, can make wheel nuts become loose after time. The wheel could come off and cause an accident. When changing a wheel, remove any rust or dirt from places where the wheel attaches to the vehicle. In an emergency, a cloth or a paper

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Warning (Continued)

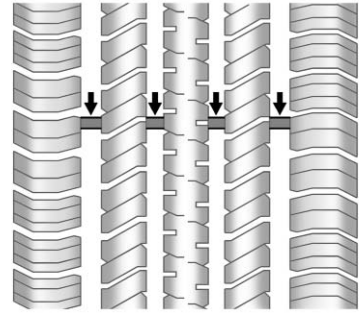
towel can be used; however, use a scraper or wire brush later to remove all rust or dirt.

Lightly coat the center of the wheel hub with wheel bearing grease after a wheel change or tire rotation to prevent corrosion or rust build-up. Do not get grease on the flat wheel mounting surface or on the wheel nuts or bolts.

Check that the spare tire, if the vehicle has one, is stored properly. Push, pull, and then try to rotate or turn the tire. If it moves, tighten the cable. See *Tire Changing* ⇨ *299*.

When It Is Time for New Tires

Factors such as maintenance, temperatures, driving speeds, vehicle loading, and road conditions affect the wear rate of the tires.



Treadwear indicators are one way to tell when it is time for new tires. Treadwear indicators appear when the tires have only 1.6 mm (1/16 in) or less of tread remaining. See *Tire Inspection* ⇨ *284* and *Tire Rotation* ⇨ *284*.

The rubber in tires ages over time. This also applies to the spare tire, if the vehicle has one, even if it is never used. Multiple factors including temperatures, loading conditions, and inflation pressure maintenance affect how fast aging takes place. GM recommends that tires, including the spare if equipped, be replaced after six years, regardless of tread wear. The

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tire manufacture date is the last four digits of the DOT Tire Identification Number (TIN) which is molded into one side of the tire sidewall. The first two digits represent the week (01–52) and the last two digits, the year. For example, the third week of the year 2010 would have a four-digit DOT date of 0310.

Vehicle Storage

Tires age when stored normally mounted on a parked vehicle. Park a vehicle that will be stored for at least a month in a cool, dry, clean area away from direct sunlight to slow aging. This area should be free of grease, gasoline, or other substances that can deteriorate rubber.

Parking for an extended period can cause flat spots on the tires that may result in vibrations while driving. When storing a vehicle for at least a month, remove the tires or raise the vehicle to reduce the weight from the tires.

Buying New Tires

GM has developed and matched specific tires for the vehicle. The original equipment tires installed were designed to meet General Motors Tire Performance Criteria Specification (TPC Spec) system rating. When replacement tires are needed, GM strongly recommends buying tires with the same TPC Spec rating.

GM's exclusive TPC Spec system considers over a dozen critical specifications that impact the overall performance of the vehicle, including brake system performance, ride and handling, traction control, and tire pressure monitoring performance. GM's TPC Spec number is molded onto the tire's sidewall near the tire size. If the tires have an all-season tread design, the TPC spec number will be followed by MS, for mud and snow. See *Tire Sidewall Labeling* ⇨ *273*.

GM recommends replacing worn tires in complete sets of four. Uniform tread depth on all tires will help to maintain the performance of the vehicle. Braking and handling performance may be adversely affected if all the tires are not replaced at the same time. If proper rotation and maintenance have been done, all four tires should wear out at about the same time. See *Tire Rotation* ⇨ *284*. However, if it is necessary to replace only one axle set of worn tires, place the new tires on the rear axle.

Winter tires with the same speed rating as the original equipment tires may not be available for H, V, W, Y, and ZR speed rated tires. Never exceed the winter

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tires' maximum speed capability when using winter tires with a lower speed rating.

⚠ Warning

Tires could explode during improper service. Attempting to mount or dismount a tire could cause injury or death. Only your dealer or authorized tire service center should mount or dismount the tires.

⚠ Warning

Mixing tires of different sizes, brands, or types may cause loss of control of the vehicle, resulting in a crash or other vehicle damage. Use the correct size, brand, and type of tire on all wheels.

⚠ Warning

Using bias-ply tires on the vehicle may cause the wheel rim flanges to develop cracks after many miles of driving. A tire and/or wheel could fail suddenly and cause a crash. Use only radial-ply tires with the wheels on the vehicle.

If the vehicle tires must be replaced with a tire that does not have a TPC Spec number, make sure they are the same size, load range, speed rating, and construction (radial) as the original tires.

Vehicles that have a tire pressure monitoring system could give an inaccurate low-pressure warning if non-TPC Spec rated tires are installed. See *Tire Pressure Monitor System* ⇨ *280*.

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The Tire and Loading Information Label indicates the original equipment tires on the vehicle. See *Vehicle Load Limits* ⇨ *171*.

Different Size Tires and Wheels

If wheels or tires are installed that are a different size than the original equipment wheels and tires, vehicle performance, including its braking, ride and handling characteristics, stability, and resistance to rollover may be affected. If the vehicle has electronic systems such as antilock brakes, rollover airbags, roll bars, traction control, electronic stability control, or All-Wheel Drive, the performance of these systems can also be affected.

⚠ Warning

If different sized wheels are used, there may not be an acceptable level of performance and safety if

(Continued)

Warning (Continued)

tires not recommended for those wheels are selected. This increases the chance of a crash and serious injury. Only use GM specific wheel and tire systems developed for the vehicle, and have them properly installed by a GM certified technician.

See *Buying New Tires* ⇨ *286* and *Accessories and Modifications* ⇨ *237*.

Uniform Tire Quality Grading

The following information relates to the system developed by the United States National Highway Traffic Safety Administration (NHTSA), which grades tires by treadwear, traction, and temperature performance. This applies only to vehicles sold in the United States. The grades are molded on the sidewalls of most passenger car tires. The Uniform Tire Quality Grading (UTQG) system does not apply to deep tread, winter tires, compact spare tires, tires with nominal rim diameters of 10 to 12 inches (25 to 30 cm), or to some limited-production tires.

While the tires available on General Motors passenger cars and light trucks may vary with respect to these grades, they must also conform to federal safety requirements and additional General Motors Tire Performance Criteria (TPC) standards.

Quality grades can be found where applicable on the tire sidewall between tread shoulder and maximum section width. For example:

Treadwear 200 Traction AA Temperature A

All Passenger Car Tires Must Conform to Federal Safety Requirements In Addition To These Grades.

Treadwear

The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear one and one-half (1½) times as well on the government course as a tire graded 100. The relative performance of tires depends upon the actual conditions of their use, however, and may depart significantly from the norm due to variations in driving habits, service practices and differences in road characteristics and climate.

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Traction

The traction grades, from highest to lowest, are AA, A, B, and C. Those grades represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance. Warning: The traction grade assigned to this tire is based on straight-ahead braking traction tests, and does not include acceleration, cornering, hydroplaning, or peak traction characteristics.

Temperature

The temperature grades are A (the highest), B, and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. The grade C corresponds to a level of performance which all passenger car tires must meet under the Federal Motor Safety Standard No. 109. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law. Warning: The temperature grade for this tire is established for a tire that is properly inflated and not overloaded. Excessive speed, underinflation, or excessive loading, either separately or in combination, can cause heat buildup and possible tire failure.

Wheel Alignment and Tire Balance

The tires and wheels were aligned and balanced at the factory to provide the longest tire life and best overall performance. Adjustments to wheel alignment and tire balancing are not necessary on a regular basis. Consider an alignment check if there is unusual tire wear or the vehicle is significantly pulling to one side or the other. Some slight pull to the left or right, depending on the crown of the road and/or other road surface variations such as troughs or ruts, is normal. If the vehicle is vibrating when driving on a smooth road, the tires and wheels may need to be rebalanced. See your dealer for proper diagnosis.

Wheel Replacement

Replace any wheel that is bent, cracked, or badly rusted or corroded. If wheel nuts keep coming loose, the wheel, wheel bolts, and wheel nuts should be replaced. If the wheel leaks air, replace it.

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Some aluminum wheels can be repaired. See your dealer if any of these conditions exist.

Your dealer will know the kind of wheel that is needed.

Each new wheel should have the same load-carrying capacity, diameter, width, and offset, and should be mounted the same way as the one it replaces.

Replace wheels, wheel bolts, wheel nuts, or Tire Pressure Monitor System (TPMS) sensors with new GM original equipment parts.

⚠ Warning

Using the wrong replacement wheels, wheel bolts, or wheel nuts can be dangerous. It could affect the braking and handling of the vehicle. Tires can lose air, and cause loss of control, causing a crash. Always use the correct wheel, wheel bolts, and wheel nuts for replacement.

Caution

The wrong wheel can also cause problems with bearing life, brake cooling, speedometer or odometer calibration, headlamp aim, bumper height, vehicle ground clearance, and tire clearance to the body and chassis.

⚠ Warning

Never use oil or grease on studs or the threads of the wheel nuts. The wheel nuts might come loose and the wheel could fall off, causing a crash.

⚠ Warning

Incorrect wheel nuts or improperly tightened wheel nuts can cause the wheel to become loose and even come off. This could lead to

(Continued)

Warning (Continued)

a crash. Be sure to use the correct wheel nuts. If you have to replace them, be sure to get new GM original equipment wheel nuts.

Caution

Improperly tightened wheel nuts can lead to brake pulsation and rotor damage. To avoid expensive brake repairs, evenly tighten the wheel nuts in the proper sequence and to the proper torque specification.

Used Replacement Wheels

⚠ Warning

Replacing a wheel with a used one is dangerous. How it has been used or how far it has been driven may be unknown. It could

(Continued)

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Warning (Continued)

fail suddenly and cause a crash. When replacing wheels, use a new GM original equipment wheel.

Tire Chains

⚠ Warning

Do not use tire chains. There is not enough clearance. Tire chains used on a vehicle without the proper amount of clearance can cause damage to the brakes, suspension, or other vehicle parts. The area damaged by the tire chains could cause loss of control and a crash.

Use another type of traction device only if its manufacturer recommends it for the vehicle's tire size combination and road conditions. Follow that manufacturer's instructions. To

(Continued)

Warning (Continued)

avoid vehicle damage, drive slow and readjust or remove the traction device if it contacts the vehicle. Do not spin the wheels. If traction devices are used, install them on the front tires.

If a Tire Goes Flat

It is unusual for a tire to blow out while driving, especially if the tires are maintained properly. See *Tires* ⇨ *271*. If air goes out of a tire, it is much more likely to leak out slowly. But if there is ever a blowout, here are a few tips about what to expect and what to do:

If a front tire fails, the flat tire creates a drag that pulls the vehicle toward that side. Take your foot off the accelerator pedal and grip the steering wheel firmly. Steer to maintain lane position, and then gently brake to a stop, well off the road, if possible.

A rear blowout, particularly on a curve, acts much like a skid and may require the same correction as used in a skid. Stop pressing the accelerator pedal and steer to straighten the vehicle. It may be very bumpy and noisy. Gently brake to a stop, well off the road, if possible.

⚠ Warning

Driving on a flat tire will cause permanent damage to the tire. Re-inflating a tire after it has been driven on while severely underinflated or flat may cause a blowout and a serious crash. Never attempt to re-inflate a tire that has been driven on while severely underinflated or flat. Have your dealer or an authorized tire service center repair or replace the flat tire as soon as possible.

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⚠ Warning

Lifting a vehicle and getting under it to do maintenance or repairs is dangerous without the appropriate safety equipment and training. If a jack is provided with the vehicle, it is designed only for changing a flat tire. If it is used for anything else, you or others could be badly injured or killed if the vehicle slips off the jack. If a jack is provided with the vehicle, only use it for changing a flat tire.

If a tire goes flat, avoid further tire and wheel damage by driving slowly to a level place, well off the road, if possible. Turn on the hazard warning flashers. See *Hazard Warning Flashers* ⇨ *152*.

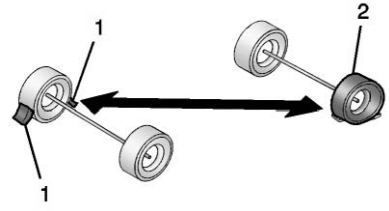
⚠ Warning

Changing a tire can be dangerous. The vehicle can slip off the jack and roll over or fall causing injury or death. Find a level place to change the tire. To help prevent the vehicle from moving:

1. Set the parking brake firmly.
2. Put an automatic transmission in P (Park) or a manual transmission in 1 (First) or R (Reverse).
3. Turn off the engine and do not restart while the vehicle is raised.
4. Do not allow passengers to remain in the vehicle.
5. Place wheel blocks, if equipped, on both sides of the tire at the opposite corner of the tire being changed.

This vehicle may come with a jack and spare tire or a tire sealant and compressor kit. To use the jacking equipment to change a spare tire safely, follow the instructions below. Then see *Tire Changing* ⇨ *299*. To use the tire sealant and compressor kit, see *Tire Sealant and Compressor Kit* ⇨ *293*.

When the vehicle has a flat tire (2), use the following example as a guide to assist you in the placement of wheel blocks (1), if equipped.



1. Wheel Block (If Equipped)
2. Flat Tire

The following information explains how to repair or change a tire.

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Tire Sealant and Compressor Kit

⚠ Warning

Idling a vehicle in an enclosed area with poor ventilation is dangerous. Engine exhaust may enter the vehicle. Engine exhaust contains carbon monoxide (CO) which cannot be seen or smelled. It can cause unconsciousness and even death. Never run the engine in an enclosed area that has no fresh air ventilation. For more information, see *Engine Exhaust ⇨ 185*.

⚠ Warning

Overinflating a tire could cause the tire to rupture and you or others could be injured. Be sure to read and follow the tire sealant and compressor kit instructions and inflate the tire to its

(Continued)

Warning (Continued)

recommended pressure. Do not exceed the recommended pressure.

⚠ Warning

Storing the tire sealant and compressor kit or other equipment in the passenger compartment of the vehicle could cause injury. In a sudden stop or collision, loose equipment could strike someone. Store the tire sealant and compressor kit in its original location.

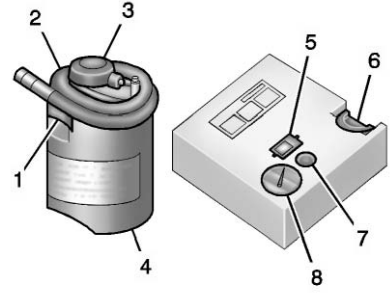
If this vehicle has a tire sealant and compressor kit, there may not be a spare tire or tire changing equipment, and on some vehicles there may not be a place to store a tire.

The tire sealant and compressor can be used to temporarily seal punctures up to 6 mm (0.25 in) in the tread area of the tire. It can also be used to inflate an underinflated tire.

If the tire has been separated from the wheel, has damaged sidewalls, or has a large puncture, the tire is too severely damaged for the tire sealant and compressor kit to be effective. See *Roadside Assistance Program ⇨ 345*.

Read and follow all of the tire sealant and compressor kit instructions.

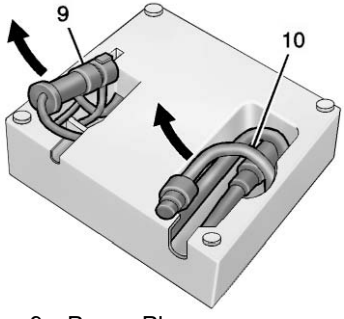
The kit includes:



1. Sealant Canister Inlet Valve

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2. Sealant/Air Hose
3. Base of Sealant Canister
4. Tire Sealant Canister
5. On/Off Button
6. Slot on Top of Compressor
7. Pressure Deflation Button
8. Pressure Gauge



9. Power Plug
10. Air Only Hose

Tire Sealant

Read and follow the safe handling instructions on the label adhered to the tire sealant canister (4).

Check the tire sealant expiration date on the tire sealant canister. The tire sealant canister (4) should be replaced before its expiration date. Replacement tire sealant canisters are available at your local dealer.

There is only enough sealant to seal one tire. After usage, the tire sealant canister must be replaced.

Using the Tire Sealant and Compressor Kit to Temporarily Seal and Inflate a Punctured Tire

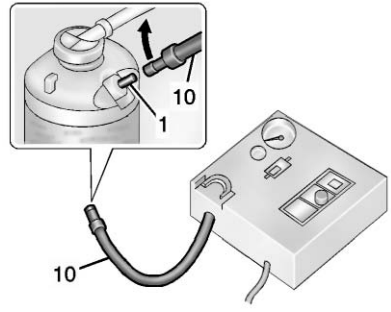
When using the tire sealant and compressor kit during cold temperatures, warm the kit in a heated environment for five minutes. This will help to inflate the tire faster.

If a tire goes flat, avoid further tire and wheel damage by driving slowly to a level place. Turn on the hazard warning flashers. See *Hazard Warning Flashers* ⇨ *152*.

See *If a Tire Goes Flat* ⇨ *291* for other important safety warnings.

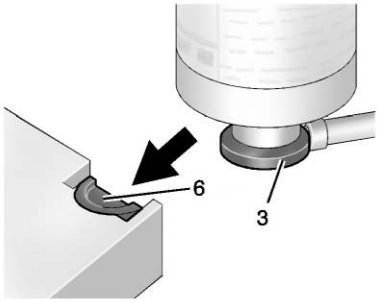
Do not remove any objects that have penetrated the tire.

1. Remove the tire sealant canister (4) and compressor from its storage location. See *Storing the Tire Sealant and Compressor Kit* ⇨ *299*.
2. Remove the air only hose (10) and the power plug (9) from the bottom of the compressor.
3. Place the compressor on the ground near the flat tire.



4. Attach the air only hose (10) to the sealant canister inlet valve (1) by turning it clockwise until tight.

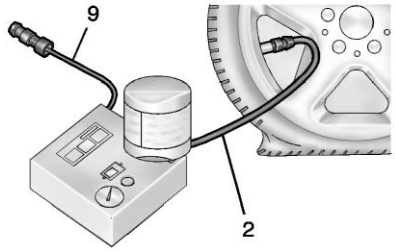
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5. Slide the base of the tire sealant canister (3) into the slot on the top of the compressor (6) to hold it upright.

 Make sure the tire valve stem is positioned close to the ground so the hose will reach it.

6. Remove the valve stem cap from the flat tire by turning it counterclockwise.



7. Attach the sealant/air hose (2) to the tire valve stem by turning it clockwise until tight.

8. Plug the power plug (9) into the accessory power outlet in the vehicle. Unplug all items from other accessory power outlets. See *Power Outlets* ⇨ *99*.

 If the vehicle has an accessory power outlet, do not use the cigarette lighter.

 If the vehicle only has a cigarette lighter, use the cigarette lighter.

 Do not pinch the power plug cord in the door or window.

9. Start the vehicle. The vehicle must be running while using the air compressor.

10. Press the on/off button (5) to turn the tire sealant and compressor kit on.

 The compressor will inject sealant and air into the tire.

 The pressure gauge (8) will initially show a high pressure while the compressor pushes the sealant into the tire. Once the sealant is completely dispersed into the tire, the pressure will quickly drop and start to rise again as the tire inflates with air only.

11. Inflate the tire to the recommended inflation pressure using the pressure gauge (8). The recommended inflation pressure can be found on the Tire and Loading Information label. See *Tire Pressure* ⇨ *278*.

 The pressure gauge (8) may read higher than the actual tire pressure while the compressor

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is on. Turn the compressor off to get an accurate pressure reading. The compressor may be turned on/off until the correct pressure is reached.

Caution

If the recommended pressure cannot be reached after approximately 25 minutes, the vehicle should not be driven farther. The tire is too severely damaged and the tire sealant and compressor kit cannot inflate the tire. Remove the power plug from the accessory power outlet and unscrew the inflating hose from the tire valve. See *Roadside Assistance Program* ⇨ *345*.

12. Press the on/off button (5) to turn the tire sealant and compressor kit off.

 The tire is not sealed and will continue to leak air until the vehicle is driven and the sealant is distributed in the tire. Therefore, Steps 13–21 must be done immediately after Step 12.

 Be careful while handling the tire sealant and compressor kit as it could be warm after usage.

13. Unplug the power plug (9) from the accessory power outlet in the vehicle.
14. Turn the sealant/air hose (2) counterclockwise to remove it from the tire valve stem.
15. Replace the tire valve stem cap.
16. Remove the tire sealant canister (4) from the slot on top of the compressor (6).
17. Turn the air only hose (10) counterclockwise to remove it from the tire sealant canister inlet valve (1).
18. Turn the sealant/air hose (2) clockwise onto the sealant canister inlet valve (1) to prevent sealant leakage.
19. Return the air only hose (10) and power plug (9) back to their original storage location.



20. If the flat tire was able to inflate to the recommended inflation pressure, remove the maximum speed label from the sealant canister and place it in a highly visible location.

 Do not exceed the speed on this label until the damaged tire is repaired or replaced.

21. Return the equipment to its original storage location in the vehicle.
22. Immediately drive the vehicle 8 km (5 mi) to distribute the sealant in the tire.
23. Stop at a safe location and check the tire pressure. Refer to Steps 1–10 under “Using the

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Tire Sealant and Compressor Kit without Sealant to Inflate a Tire (Not Punctured)."

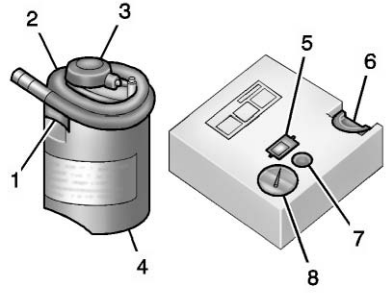
If the tire pressure has fallen more than 68 kPa (10 psi) below the recommended inflation pressure, stop driving the vehicle. The tire is too severely damaged and the tire sealant cannot seal the tire. See *Roadside Assistance Program* ⇨ *345*.

If the tire pressure has not dropped more than 68 kPa (10 psi) from the recommended inflation pressure, inflate the tire to the recommended inflation pressure.

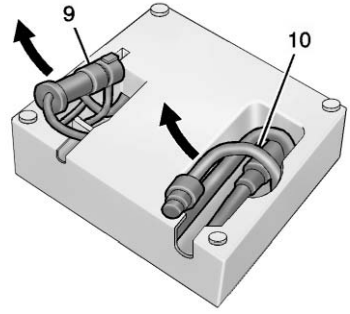
24. Wipe off any sealant from the wheel, tire, or vehicle.
25. Dispose of the used tire sealant canister (4) at a local dealer or in accordance with local state codes and practices.
26. Replace it with a new canister available from your dealer.
27. After temporarily sealing a tire using the tire sealant and compressor kit, take the vehicle to an authorized dealer within 161 km (100 mi) of driving to have the tire repaired or replaced.

Using the Tire Sealant and Compressor Kit without Sealant to Inflate a Tire (Not Punctured)

The kit includes:



1. Sealant Canister Inlet Valve
2. Sealant/Air Hose
3. Base of Sealant Canister
4. Tire Sealant Canister
5. On/Off Button
6. Slot on Top of Compressor
7. Pressure Deflation Button
8. Pressure Gauge



9. Power Plug
10. Air Only Hose

If a tire goes flat, avoid further tire and wheel damage by driving slowly to a level place. Turn on the hazard warning flashers. See *Hazard Warning Flashers* ⇨ *152*.

See *If a Tire Goes Flat* ⇨ *291* for other important safety warnings.

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1. Remove the compressor from its storage location. See *Storing the Tire Sealant and Compressor Kit* ⇨ *299*.
2. Remove the air only hose (10) and the power plug (9) from the bottom of the compressor.
3. Place the compressor on the ground near the flat tire.

 Make sure the tire valve stem is positioned close to the ground so the hose will reach it.
4. Remove the valve stem cap from the flat tire by turning it counterclockwise.
5. Attach the air only hose (10) to the tire valve stem by turning it clockwise until tight.
6. Plug the power plug (9) into the accessory power outlet in the vehicle. Unplug all items from other accessory power outlets. See *Power Outlets* ⇨ *99*.

 If the vehicle has an accessory power outlet, do not use the cigarette lighter.

 If the vehicle only has a cigarette lighter, use the cigarette lighter.

 Do not pinch the power plug cord in the door or window.
7. Start the vehicle. The vehicle must be running while using the air compressor.
8. Press the on/off button (5) to turn the tire sealant and compressor kit on.

 The compressor will inflate the tire with air only.
9. Inflate the tire to the recommended inflation pressure using the pressure gauge (8). The recommended inflation pressure can be found on the Tire and Loading Information label. See *Tire Pressure* ⇨ *278*.

 The pressure gauge (8) may read higher than the actual tire pressure while the compressor is on. Turn the compressor off to get an accurate pressure reading. The compressor may be turned on/off until the correct pressure is reached.

Caution

If the recommended pressure cannot be reached after approximately 25 minutes, the vehicle should not be driven farther. The tire is too severely damaged and the tire sealant and compressor kit cannot inflate the tire. Remove the power plug from the accessory power outlet and unscrew the inflating hose from the tire valve. See *Roadside Assistance Program* ⇨ *345*.

10. Press the on/off button (5) to turn the tire sealant and compressor kit off.

 Be careful while handling the compressor as it could be warm after usage.
11. Unplug the power plug (9) from the accessory power outlet in the vehicle.

DEP
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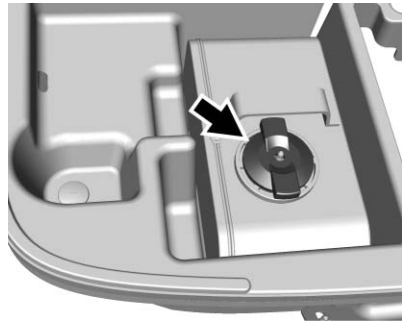
12. Turn the air only hose (10) counterclockwise to remove it from the tire valve stem.
13. Replace the tire valve stem cap.
14. Return the air only hose (10) and power plug (9) back to their original storage location.
15. Return the equipment to its original storage location in the vehicle.

The tire sealant and compressor kit has accessory adapters located in a compartment on the bottom of its housing that can be used to inflate air mattresses, balls, etc.

Storing the Tire Sealant and Compressor Kit

To access the tire sealant and compressor kit:

1. Open the hatch. See *Hatch* ⇨ *42*.
2. Lift the cover.



3. Turn the retainer nut counterclockwise to remove the tire sealant and compressor kit bag.
4. Remove the tire sealant and compressor kit from the bag.

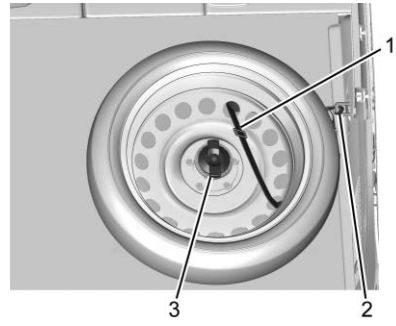
To store the tire sealant and compressor kit, reverse the steps.

Tire Changing

Removing the Spare Tire and Tools

To access the spare tire and tools:

1. Open the hatch.
2. Remove the spare tire cover.



3. Remove the retainer strap (1) from the right forward most D-ring (2).
4. Turn the retainer nut (3) counterclockwise to remove the spare tire.

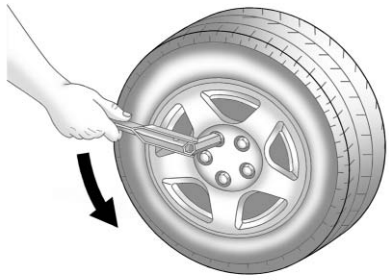
 Place the spare tire next to the tire being changed.

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5. Lift the load floor to access the jack (3) and wrench bag (1).
6. Remove the hook (2) from the jack (3).
7. Remove the retainer straps (4).
8. Remove the jack (3) and wrench bag (1) and place them near the tire being changed.

1. Do a safety check before proceeding. See *If a Tire Goes Flat* ⇨ *291*.



2. Turn the wheel wrench counterclockwise to loosen all the wheel nuts, but do not remove them yet.
3. Place the jack near the flat tire.
4. Put the compact spare tire near you.

⚠ Warning

Getting under a vehicle when it is lifted on a jack is dangerous. If the vehicle slips off the jack, you could be badly injured or

(Continued)

Warning (Continued)

killed. Never get under a vehicle when it is supported only by a jack.

⚠ Warning

Raising the vehicle with the jack improperly positioned can damage the vehicle and even make the vehicle fall. To help avoid personal injury and vehicle damage, be sure to fit the jack lift head into the proper location before raising the vehicle.

⚠ Warning

Lifting a vehicle and getting under it to do maintenance or repairs is dangerous without the appropriate safety equipment and training. If a jack is provided with the vehicle, it is designed only for

(Continued)

DEP DEALER E-PROCESS

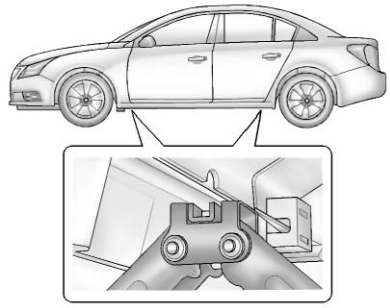
Warning (Continued)

changing a flat tire. If it is used for anything else, you or others could be badly injured or killed if the vehicle slips off the jack. If a jack is provided with the vehicle, only use it for changing a flat tire.

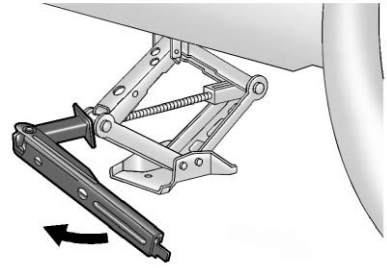
5. Attach the jack wrench to the jack by fitting both ends of the jack and tool over one another.
6. Place the jack under the vehicle.

Caution

Make sure that the jack lift head is in the correct position or you may damage your vehicle. The repairs would not be covered by your warranty.

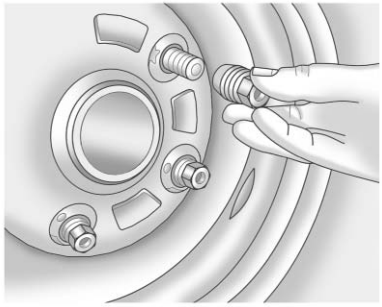


7. Position the jack lift head at the jack location nearest the flat tire. The location is indicated by a notch on the bottom edge of the body side. The jack must not be used in any other position.



8. Raise the vehicle by turning the jack handle clockwise. Raise the vehicle far enough off the ground so there is enough room for the road tire to clear the ground.

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9. Remove all of the wheel nuts.
10. Remove the flat tire.

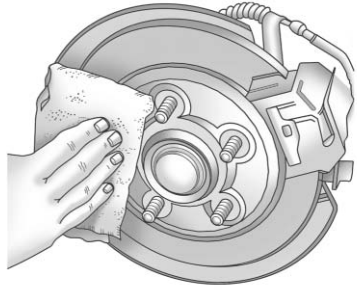
⚠ Warning

Rust or dirt on a wheel, or on the parts to which it is fastened, can make wheel nuts become loose after time. The wheel could come off and cause an accident. When changing a wheel, remove any rust or dirt from places where the wheel attaches to the vehicle. In an emergency, a cloth or a paper

(Continued)

Warning (Continued)

towel can be used; however, use a scraper or wire brush later to remove all rust or dirt.



11. Remove any rust or dirt from the wheel bolts, mounting surfaces, and spare wheel.
12. Place the compact spare tire on the wheel-mounting surface.

⚠ Warning

Never use oil or grease on bolts or nuts because the nuts might come loose. The vehicle's wheel could fall off, causing a crash.

13. Reinstall the wheel nuts. Tighten each nut by hand until the wheel is held against the hub.
14. Lower the vehicle by turning the jack handle counterclockwise.

⚠ Warning

Wheel nuts that are improperly or incorrectly tightened can cause the wheels to become loose or come off. The wheel nuts should be tightened with a torque wrench to the proper torque specification after replacing. Follow the torque specification supplied by the aftermarket manufacturer when using accessory locking wheel

(Continued)

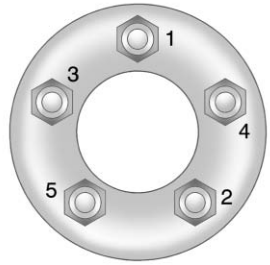
DEP DEALER E-PROCESS

Warning (Continued)

nuts. See *Capacities and Specifications* ⇨ *338* for original equipment wheel nut torque specifications.

Caution

Improperly tightened wheel nuts can lead to brake pulsation and rotor damage. To avoid expensive brake repairs, evenly tighten the wheel nuts in the proper sequence and to the proper torque specification. See *Capacities and Specifications* ⇨ *338* for the wheel nut torque specification.



15. Tighten the wheel nuts firmly in a crisscross sequence, as shown.
16. Lower the jack all the way and remove the jack from under the vehicle.
17. Tighten the wheel nuts firmly with the wheel wrench.

Storing a Flat or Spare Tire and Tools

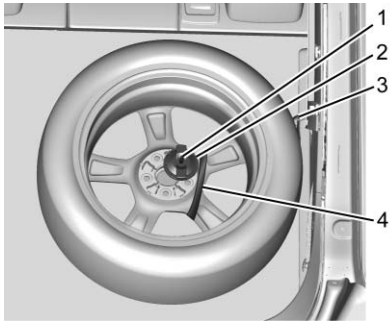
⚠ Warning

Storing a jack, a tire, or other equipment in the passenger compartment of the vehicle could cause injury. In a sudden stop or collision, loose equipment could strike someone. Store all these in the proper place.

1. Lift the load floor and place the jack and wrench bag in their original storage location.

 Secure them with the retainer straps and attach the hook to the jack.
2. Close the load floor.
3. Place the flat tire over the bolt (1) and through one of the bolt holes with the valve stem facing down.

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4. Route the retainer strap (4) through the wheel, as shown.
5. Attach the retainer strap (4) to the right forward most D-ring (3).
6. Tighten the retainer strap (4).
7. Turn the retainer nut (2) clockwise to secure the tire.

The compact spare is for temporary use only. Replace the compact spare tire with a full-size road tire as soon as you can.

Compact Spare Tire

⚠ Warning

Driving with more than one compact spare tire at a time could result in loss of braking and handling. This could lead to a crash and you or others could be injured. Use only one compact spare tire at a time.

If this vehicle has a compact spare tire, it was fully inflated when new; however, it can lose air over time. Check the inflation pressure regularly. It should be 420 kPa (60 psi).

Stop as soon as possible and check that the spare tire is correctly inflated after being installed on the vehicle. The compact spare tire is designed for temporary use only. The vehicle will perform differently with the spare tire installed and it is recommended that the vehicle speed be limited to 80 km/h (50 mph). To conserve the tread of the spare tire, have the standard tire repaired or replaced as soon as convenient and return the spare tire to the storage area.

When using a compact spare tire, the AWD (if equipped), ABS, and Traction Control systems may engage until the spare tire is recognized by the vehicle, especially on slippery roads. Adjust driving to reduce possible wheel slip.

Caution

When the compact spare is installed, do not take the vehicle through an automatic car wash with guide rails. The compact spare can get caught on the rails which can damage the tire, wheel, and other parts of the vehicle.

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Do not use the compact spare on other vehicles.

Do not mix the compact spare tire or wheel with other wheels or tires. They will not fit. Keep the spare tire and its wheel together.

Caution

Tire chains will not fit the compact spare. Using them can damage the vehicle and the chains. Do not use tire chains on the compact spare.

Jump Starting

Jump Starting - North America

Jump starting is connecting jumper cables between the two vehicles to enable vehicle starting. If the Volt or another vehicle has a run-down 12-volt battery, it can be jump started using good condition jumper cables. There are different procedures depending on if the Volt has a run-down battery or another vehicle has a run-down battery. Read the appropriate procedures that follow.

⚠ Warning

The high voltage battery cannot be jump started either with another vehicle or battery charger. Personal injury, death, or damage to the vehicle could result.

⚠ Warning

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Batteries also contain other chemicals known to the State of California to cause cancer. **WASH HANDS AFTER HANDLING.**

See *California Proposition 65 Warning* ⇨ *236*.

⚠ Warning

Batteries can hurt you. They can be dangerous because:

- They contain acid that can burn you.
- They contain gas that can explode or ignite.

(Continued)

DEP DEALER E-PROCESS

Warning (Continued)

- They contain enough electricity to burn you.

If you do not follow these steps exactly, some or all of these things can hurt you.

⚠ Warning

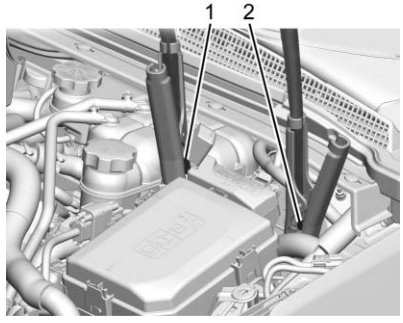
Electric fans can start up even when the engine is not running and can cause injury. Keep hands, clothing, and tools away from any underhood electric fans.

Caution

Ignoring these steps could result in costly damage to the vehicle that would not be covered by the vehicle warranty. Trying to start the vehicle by pushing or pulling it will not work, and it could damage the vehicle.

Jump Starting the Volt

If the Volt will not start, the 12-volt battery may be run down. To jump start the Volt use the underhood remote positive (+) and negative (−) terminals.



1. Remote Positive (+) Terminal
2. Remote Negative (−) Terminal

1. The other vehicle used to jump start the Volt must have a 12-volt battery with a negative ground system.

Caution

If the other vehicle does not have a 12-volt system with a negative ground, both vehicles can be damaged. Only use a vehicle that has a 12-volt system with a negative ground for jump starting.

2. Park both vehicles close enough so that the jumper cables can reach both vehicles' positive (+) and negative (−) terminals. The vehicles must not touch each other. It could cause an unwanted ground connection that could damage both vehicles' electrical systems.

 Put both vehicles in P (Park) for an automatic transmission or electric drive unit. For a manual transmission, place the vehicle in Neutral and set the parking brake.

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Caution

If any accessories are left on or plugged in during the jump starting procedure, they could be damaged. The repairs would not be covered by the vehicle warranty. Whenever possible, turn off or unplug all accessories on either vehicle when jump starting.

3. Turn off the ignition on the other vehicle. Turn off the radio, all lamps, and accessories that are not needed in both vehicles. Unplug accessories from the cigarette lighter or the accessory power outlets. This avoids sparks and helps save both batteries and accessories.
4. Locate the positive (+) and negative (−) terminals on the other vehicle.
5. Open the hood to locate the positive (+) and negative (−) terminals on your Volt. Open the access cover for the remote positive (+) terminal (1). The remote negative (−) terminal (2) for the Volt is a stud GND (−) on the driver side of the engine compartment.
6. Check that the jumper cables do not have loose or missing insulation or a shock could result and the vehicles could be damaged.

 Before connecting the jumper cables, here are some basic things to know. Positive (+) jumper cable goes to positive (+) battery terminal or a remote positive (+) terminal if available. Negative (−) jumper cable goes to negative (−) battery terminal or a remote negative (−) terminal if available. Do not connect positive (+) to negative (−) or there will be a short that may damage the battery and other parts of the vehicle.

Caution

If the jumper cables are connected or removed in the wrong order, electrical shorting may occur and damage the vehicle. The repairs would not be covered by the vehicle warranty. Always connect and remove the jumper cables in the correct order, making sure that the cables do not touch each other or other metal.

Connecting the Jumper Cables

1. Connect the red positive (+) jumper cable to the remote positive (+) terminal (1) of your Volt. Do not let the other end of the cable touch metal.
2. Connect the other end of the red positive (+) jumper cable to the positive (+) terminal of the other vehicle.
3. Connect the black negative (−) jumper cable to the negative (−) battery terminal of

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the other vehicle battery. Do not let the other end touch anything until the next step.

4. Connect the other end of the black negative (−) jumper cable to the remote negative (−) terminal (2) of your Volt.

5. Press POWER ⏻ to start. This will wake up the electronics on the Volt. After the instrument cluster initializes, the Volt will use power from the high voltage battery to charge the 12-volt battery. The jumper cables can then be disconnected. If the Volt does not start, call your dealer or Roadside Assistance. See *Roadside Assistance Program* ⇨ *345*.

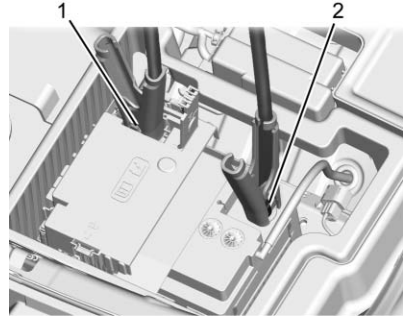
Disconnecting the Jumper Cables

1. Disconnect the black negative (−) jumper cable from the Volt. Do not let the other end of the cable touch anything until after the next step.
2. Disconnect the black negative (−) jumper cable from the other vehicle with the good battery.
3. Disconnect the red positive (+) jumper cable from the other vehicle. Do not let the other end of the cable touch anything until after the next step.
4. Disconnect the red positive (+) jumper cable from the Volt.
5. Return the positive (+) and negative (−) terminal covers to their original positions.

After starting the disabled vehicle and removing the jumper cables, allow it to idle for several minutes.

Jump Starting Another Vehicle

When using the Volt to jump start another vehicle with a run-down battery, jumper cables are connected directly to the positive (+) and negative (−) terminals on the 12-volt battery in the rear cargo area. Do not use the remote terminals under the hood. This could cause a fuse to overload in the Volt.



1. Positive (+) Terminal
2. Negative (−) Terminal

1. Check the other vehicle. It must have a 12-volt battery with a negative ground system.

Caution

If the other vehicle does not have a 12-volt system with a negative ground, both vehicles can be damaged. Only use a vehicle that has a 12-volt system with a negative ground for jump starting.

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2. Park both vehicles close enough so that the jumper cables can reach both vehicles' positive (+) and negative (−) terminals. The vehicles must not touch each other. It could cause an unwanted ground connection that could damage both vehicles' electrical systems.

 Put both vehicles in P (Park) for an automatic transmission or electric drive unit. For a manual transmission, place the vehicle in Neutral and set the parking brake.

Caution

If any accessories are left on or plugged in during the jump starting procedure, they could be damaged. The repairs would not be covered by the vehicle warranty. Whenever possible, turn off or unplug all accessories on either vehicle when jump starting.

3. Turn off both vehicles. Turn off the radio, all lamps, and accessories that are not needed in both vehicles. Unplug accessories from the cigarette lighter or the accessory power outlets. This avoids sparks and helps save both batteries and accessories.
4. Locate the positive (+) and negative (−) terminals on the vehicle with the run-down battery.
5. Locate the positive (+) and negative (−) battery terminals on the Volt. The 12-volt battery is under the load floor in the rear cargo area. Open the access covers for the positive (+) terminal (1) and the negative (−) terminal (2).
6. Check that the jumper cables do not have loose or missing insulation or a shock could result and the vehicles could be damaged.

 Before connecting the jumper cables, here are some basic things to know. Positive (+) jumper cable goes to positive (+) battery terminal or a remote positive (+) terminal if available. Negative (−) jumper cable goes to remote negative (−) terminal if available, or a heavy, unpainted metal engine part or a solid engine ground on the vehicle with the run-down battery.

 Do not connect positive (+) to negative (−) or there will be a short that may damage the battery or other parts of the vehicle. Do not connect the negative (−) cable to the negative (−) terminal on the run-down battery because this can cause sparks.

Caution

If the jumper cables are connected or removed in the wrong order, electrical shorting may occur and damage the vehicle. The repairs would not be

(Continued)

DEALER E-PROCESS

Caution (Continued)

covered by the vehicle warranty. Always connect and remove the jumper cables in the correct order, making sure that the cables do not touch each other or other metal.

Connecting the Jumper Cables

1. Connect the red positive (+) jumper cable to the positive (+) terminal of the other vehicle with the run-down battery. Use a remote positive (+) terminal if available. Do not let the other end touch metal.
2. Connect the other end of the red positive (+) jumper cable to the positive (+) battery terminal of the Volt.
3. Connect the black negative (−) jumper cable to the negative (−) battery terminal of the Volt. Do not let the other end touch anything until the next step.
4. Make the final connection to a heavy, unpainted metal engine part or to the remote negative (−) terminal on the other vehicle with the run-down battery.
5. Press POWER ⏻ to start the Volt. This will wake up the electronics on the Volt. The engine will only start if it is needed.
6. Try to start the other vehicle that had the run-down battery. If it will not start after a few tries, it probably needs service.

Disconnecting the Jumper Cables

1. Disconnect the black negative (−) jumper cable from the other vehicle that had the run-down battery. Do not let the other end of the cable touch anything until after the next step.
2. Disconnect the black negative (−) jumper cable from the Volt.
3. Disconnect the red positive (+) jumper cable from the Volt. Do not let the other end of the cable touch anything until after the next step.
4. Disconnect the red positive (+) jumper cable from the other vehicle.
5. Return the positive (+) and negative (−) terminal covers to their original positions.

After starting the disabled vehicle and removing the jumper cables, allow it to idle for several minutes.

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Towing the Vehicle

Caution
Incorrectly towing a disabled vehicle may cause damage. The damage would not be covered by the vehicle warranty. Do not lash or hook to suspension components. Use the proper straps around the tires to secure the vehicle.

Use only a flatbed tow truck for towing a disabled vehicle. Never use a sling type lift or damage will occur. Use ramps to help reduce approach angles if necessary. A towed vehicle should have its drive wheels off the ground. Consult a professional towing service if the disabled vehicle must be towed.

If the vehicle is equipped with a tow eye, only use the tow eye to pull the vehicle onto a flatbed car carrier from a flat road surface. Do not use the tow eye to pull the vehicle from snow, mud, or sand.

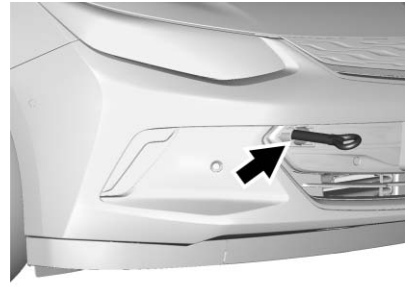
Caution
Improper use of the tow eye can cause vehicle damage. Use caution and low speeds to prevent damage to the vehicle.

Consult your dealer or a professional towing service if the disabled vehicle must be towed.

To load a vehicle onto a flatbed carrier:

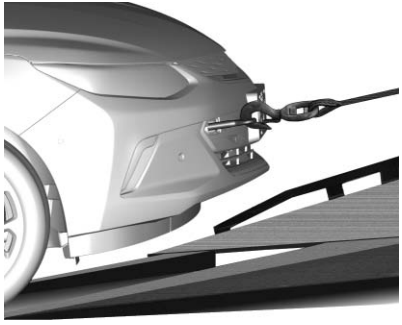
1. The vehicle must be on a flat surface.
2. The front tires must be properly inflated. If necessary, move a rear tire to the front to replace a flat or damaged tire. If equipped, use the spare tire to replace a flat or damaged tire.
3. Remove the tow eye bolt from the rear storage area.
4. Remove the front bumper tow eye cover.

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5. Screw the tow eye bolt into the bumper.

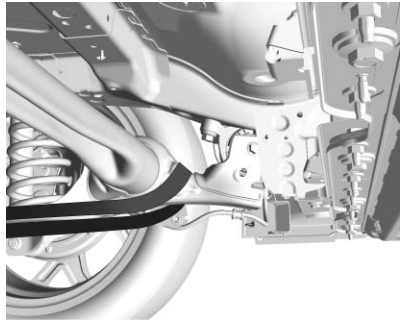
 The tow cable can hook into the tow eye bolt and pull the vehicle onto the flatbed tow truck.



6. Ramps are required for the front fascia to clear the flatbed.

Caution
If ramps are not used, the front fascia will come into contact with the flatbed and may cause damage. Always use ramps.

7. Use the proper nylon strap harnesses around the tires to secure them to the flatbed car carrier.



8. If the car is parked at an angle so that the front toe eye cannot be accessed, wrap a tow strap around both of the rear trailing arms and pull the vehicle onto a flat surface. Do not wrap the tow strap around the rear torque tube.

Caution
When using tow straps to move the vehicle, damage may occur if the tow straps contact the rear fascia. Do not let the tow straps contact the rear fascia.

To tow the vehicle behind another vehicle for recreational purposes, such as behind a motor home, see *Recreational Vehicle Towing* ⇨ *312*.

Recreational Vehicle Towing

Recreational vehicle towing refers to towing the vehicle behind another vehicle such as a motor home. The two most common types of recreational vehicle towing are known as dinghy towing and dolly towing. Dinghy towing is towing the vehicle with all four wheels on the ground. Dolly towing is towing the vehicle with two wheels on the ground and two wheels up on a device known as a dolly.

Here are some important things to consider before recreational vehicle towing:

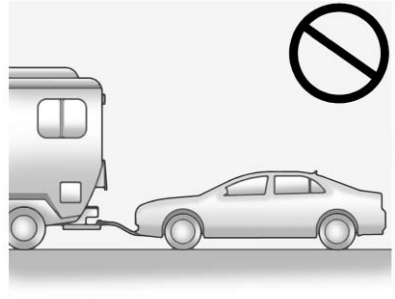
- The towing capacity of the towing vehicle. Read the tow vehicle manufacturer's recommendations.

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- How far the vehicle can be towed. Some vehicles have restrictions on how far and how long they can tow.
- Whether the vehicle has the proper towing equipment. See your dealer or trailering professional for additional advice and equipment recommendations.
- Whether the vehicle is ready to be towed. Just as preparing the vehicle for a long trip, make sure the vehicle is prepared to be towed.

Caution
Use of a shield mounted in front of the vehicle grille could restrict airflow and cause damage to the electric drive unit. The repairs would not be covered by the vehicle warranty. If using a shield, only use one that attaches to the towing vehicle.

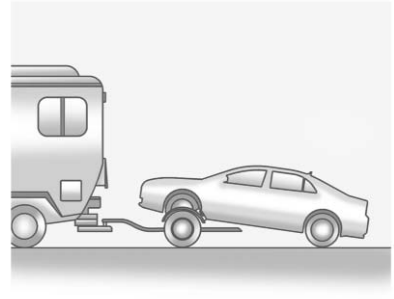
Dinghy Towing



Caution
If the vehicle is towed with all four wheels on the ground, the drive unit could be damaged. Repairs would not be covered by the vehicle warranty. Do not tow the vehicle with all four wheels on the ground.

The vehicle was not designed to be towed with all four wheels on the ground. If the vehicle must be towed, a dolly should be used. See the information on dolly towing following.

Dolly Towing from the Front



The vehicle can be towed from the front using a dolly. To tow the vehicle using a dolly:

1. Attach the dolly to the tow vehicle following the dolly manufacturer's instructions.
2. Drive the front wheels onto the dolly.
3. Put the shift lever in P (Park).
4. Set the parking brake and turn the vehicle off.

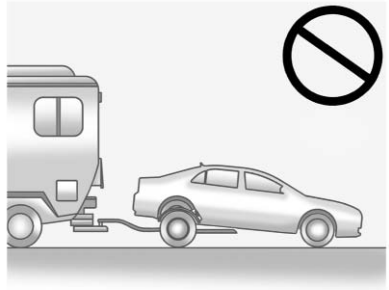
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5. Clamp the steering wheel in a straight-ahead position with a clamping device designed for towing.



6. Secure the vehicle to the dolly with a lash over the tire. Do not lash though the wheel.
7. Release the parking brake.
8. Check for adequate rear fascia to ground clearance.

Dolly Towing from the Rear



Caution
Towing the vehicle from the rear, with the front wheels on the ground, could damage the drive unit, and front fascia. Do not tow the vehicle from the rear with the front wheels on the ground.

Appearance Care

Exterior Care

Locks

Locks are lubricated at the factory. Use a de-icing agent only when absolutely necessary, and have the locks greased after using. See *Recommended Fluids and Lubricants* ⇨ *334*.

Washing the Vehicle

To preserve the vehicle's finish, wash it often and out of direct sunlight.

Caution
Do not use petroleum-based, acidic, or abrasive cleaning agents as they can damage the vehicle's paint, metal, or plastic parts. If damage occurs, it would not be covered by the vehicle warranty. Approved cleaning products can be obtained from
(Continued)

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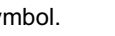
Caution (Continued)

your dealer. Follow all manufacturer directions regarding correct product usage, necessary safety precautions, and appropriate disposal of any vehicle care product.

Caution

Avoid using high-pressure washes closer than 30 cm (12 in) to the surface of the vehicle. Use of power washers exceeding 8,274 kPa (1,200 psi) can result in damage or removal of paint and decals.

Caution

Do not power wash any component under the hood that has this  symbol.

(Continued)

Caution (Continued)

This could cause damage that would not be covered by the vehicle warranty.

If using an automatic car wash, follow the car wash instructions. The windshield wiper and rear window wiper, if equipped, must be off. Remove any accessories that may be damaged or interfere with the car wash equipment.

Rinse the vehicle well, before washing and after, to remove all cleaning agents completely. If they are allowed to dry on the surface, they could stain.

Dry the finish with a soft, clean chamois or an all-cotton towel to avoid surface scratches and water spotting.

Finish Care

Application of aftermarket clearcoat sealant/wax materials is not recommended. If painted surfaces are damaged, see your dealer to have the damage assessed and repaired. Foreign materials such as calcium chloride and other salts, ice melting agents, road oil and tar, tree sap, bird droppings, chemicals from industrial chimneys, etc., can damage the vehicle's finish if they remain on painted surfaces. Wash the vehicle as soon as possible. If necessary, use non-abrasive cleaners that are marked safe for painted surfaces to remove foreign matter.

Occasional hand waxing or mild polishing should be done to remove residue from the paint finish. See your dealer for approved cleaning products.

Do not apply waxes or polishes to uncoated plastic, vinyl, rubber, decals, simulated wood, or flat paint as damage can occur.

Caution

Machine compounding or aggressive polishing on a basecoat/clearcoat paint finish

(Continued)

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Caution (Continued)

may damage it. Use only non-abrasive waxes and polishes that are made for a basecoat/clearcoat paint finish on the vehicle.

To keep the paint finish looking new, keep the vehicle garaged or covered whenever possible.

Protecting Exterior Bright Metal Moldings

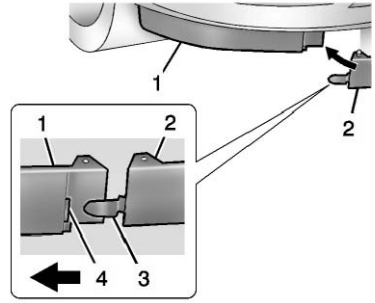
Caution

Failure to clean and protect the bright metal moldings can result in a hazy white finish or pitting. This damage would not be covered by the vehicle warranty.

The bright metal moldings on the vehicle are aluminum, chrome or stainless steel. To prevent damage always follow these cleaning instructions:

- Be sure the molding is cool to the touch before applying any cleaning solution.
- Use only approved cleaning solutions for aluminum, chrome or stainless steel. Some cleaners are highly acidic or contain alkaline substances and can damage the moldings.
- Always dilute a concentrated cleaner according to the manufacturer's instructions.
- Do not use cleaners that are not intended for automotive use.
- Use a nonabrasive wax on the vehicle after washing to protect and extend the molding finish.

Front Air Deflector



With Tabs Shown, Without Tabs Similar

1. Outer Air Deflector
2. Inner Air Deflector
3. Tab
4. Slot

The front air deflector directs the airflow under the vehicle.

If the air deflector has tabs and they become detached, insert the tab into the slot. Repeat for the other side.

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Cleaning Exterior Lamps/ Lenses, Emblems, Decals, and Stripes

Use only lukewarm or cold water, a soft cloth, and a car washing soap to clean exterior lamps, lenses emblems, decals, and stripes. Follow instructions under "Washing the Vehicle" previously in this section.

Lamp covers are made of plastic, and some have a UV protective coating. Do not clean or wipe them while they are dry.

Do not use any of the following on lamp covers:

- Abrasive or caustic agents.
- Washer fluids and other cleaning agents in higher concentrations than suggested by the manufacturer.
- Solvents, alcohols, fuels, or other harsh cleaners.
- Ice scrapers or other hard items.
- Aftermarket appearance caps or covers while the lamps are illuminated, due to excessive heat generated.

Caution
Failure to clean lamps properly can cause damage to the lamp cover that would not be covered by the vehicle warranty.

Caution
Using wax on low gloss black finish stripes can increase the gloss level and create a non-uniform finish. Clean low gloss stripes with soap and water only.

Air Intakes

Clear debris from the air intakes, between the hood and windshield, when washing the vehicle.

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Shutter System



The vehicle may have a shutter system designed to help increase fuel economy. Keep the shutter system clean for proper operation.

Windshield and Wiper Blades

Clean the outside of the windshield with glass cleaner.

Clean rubber blades using lint-free cloth or paper towel soaked with windshield washer fluid or a mild detergent. Wash the windshield thoroughly when cleaning the blades. Bugs, road grime, sap, and

a buildup of vehicle wash/wax treatments may cause wiper streaking.

Replace the wiper blades if they are worn or damaged. Damage can be caused by extreme dusty conditions, sand, salt, heat, sun, snow, and ice.

Weatherstrips

Apply Dielectric silicone grease on weatherstrips to make them last longer, seal better, and not stick or squeak. Lubricate weatherstrips at least once a year. Hot, dry climates may require more frequent application. Black marks from rubber material on painted surfaces can be removed by rubbing with a clean cloth. See *Recommended Fluids and Lubricants* ⇨ *334*.

Tires

Use a stiff brush with tire cleaner to clean the tires.

Caution

Using petroleum-based tire dressing products on the vehicle may damage the paint finish and/or tires. When applying a tire dressing, always wipe off any overspray from all painted surfaces on the vehicle.

Wheels and Trim — Aluminum or Chrome

Use a soft, clean cloth with mild soap and water to clean the wheels. After rinsing thoroughly with clean water, dry with a soft, clean towel. A wax may then be applied.

Caution

Chrome wheels and other chrome trim may be damaged if the vehicle is not washed after driving on roads that have been sprayed with magnesium, calcium, or sodium chloride. These

(Continued)

Caution (Continued)

chlorides are used on roads for conditions such as ice and dust. Always wash the chrome with soap and water after exposure.

Caution

To avoid surface damage, do not use strong soaps, chemicals, abrasive polishes, cleaners, brushes, or cleaners that contain acid on aluminum or chrome-plated wheels. Use only approved cleaners. Also, never drive a vehicle with aluminum or chrome-plated wheels through an automatic car wash that uses silicone carbide tire cleaning brushes. Damage could occur and the repairs would not be covered by the vehicle warranty.

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Brake System

Visually inspect brake lines and hoses for proper hook-up, binding, leaks, cracks, chafing, etc. Inspect disc brake pads for wear and rotors for surface condition. Inspect drum brake linings/shoes for wear or cracks. Inspect all other brake parts.

Steering, Suspension, and Chassis Components

Visually inspect steering, suspension, and chassis components for damaged, loose, or missing parts or signs of wear at least once a year.

Inspect power steering for proper attachment, connections, binding, leaks, cracks, chafing, etc.

Visually check constant velocity joint boots and axle seals for leaks.

Body Component Lubrication

Lubricate all key lock cylinders, hood hinges, hatch/liftgate hinges, and the steel fuel door hinge unless the components are plastic. Applying silicone grease on weatherstrips with a clean cloth will make them last longer, seal better, and not stick or squeak.

Underbody Maintenance

At least twice a year, spring and fall, use plain water to flush dirt and debris from the vehicle's underbody. Your dealer or an underbody car washing system can do this. If not removed, rust and corrosion can develop.

Do not directly power wash the transfer case and/or front/rear axle output seals. High pressure water can overcome the seals and contaminate the fluid. Contaminated fluid will decrease the life of the transfer case and/or axles and should be replaced.

Sheet Metal Damage

If the vehicle is damaged and requires sheet metal repair or replacement, make sure the body repair shop applies anti-corrosion material to parts repaired or replaced to restore corrosion protection. Original manufacturer replacement parts will provide the corrosion protection while maintaining the vehicle warranty.

Finish Damage

Quickly repair minor chips and scratches with touch-up materials available from your dealer to avoid corrosion. Larger areas of finish damage can be corrected in your dealer's body and paint shop.

Chemical Paint Spotting

Airborne pollutants can fall upon and attack painted vehicle surfaces causing blotchy, ring-shaped discolorations, and small, irregular dark spots etched into the paint surface. Refer to “Finish Care” previously in this section.

Interior Care

To prevent dirt particle abrasions, regularly clean the vehicle's interior. Immediately remove any soils. Newspapers or dark garments can transfer color to the vehicle’s interior.

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Use a soft bristle brush to remove dust from knobs and crevices on the instrument cluster. Using a mild soap solution, immediately remove hand lotions, sunscreen, and insect repellent from all interior surfaces or permanent damage may result.

Use cleaners specifically designed for the surfaces being cleaned to prevent permanent damage. Apply all cleaners directly to the cleaning cloth. Do not spray cleaners on any switches or controls. Remove cleaners quickly.

Before using cleaners, read and follow all safety instructions on the label. While cleaning the interior, open the doors and windows to get proper ventilation.

To prevent damage, do not clean the interior using the following cleaners or techniques:

- Never use a razor or any other sharp object to remove soil from any interior surface.
- Never use a brush with stiff bristles.
- Never rub any surface aggressively or with too much pressure.
- Do not use laundry detergents or dishwashing soaps with degreasers. For liquid cleaners, use approximately 20 drops per 3.8 L (1 gal) of water. A concentrated soap solution will create streaks and attract dirt. Do not use solutions that contain strong or caustic soap.
- Do not heavily saturate the upholstery when cleaning.
- Do not use solvents or cleaners containing solvents.

Interior Glass

To clean, use a terry cloth fabric dampened with water. Wipe droplets left behind with a clean dry cloth. If necessary, use a commercial glass cleaner after cleaning with plain water.

Caution

To prevent scratching, never use abrasive cleaners on automotive glass. Abrasive cleaners or aggressive cleaning may damage the rear window defogger.

Cleaning the windshield with water during the first three to six months of ownership will reduce tendency to fog.

Speaker Covers

Vacuum around a speaker cover gently, so that the speaker will not be damaged. Clean spots with water and mild soap.

Coated Moldings

Coated moldings should be cleaned.

- When lightly soiled, wipe with a sponge or soft, lint-free cloth dampened with water.
- When heavily soiled, use warm soapy water.

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Fabric/Carpet/Suede

Start by vacuuming the surface using a soft brush attachment. If a rotating vacuum brush attachment is being used, only use it on the floor carpet. Before cleaning, gently remove as much of the soil as possible:

- Gently blot liquids with a paper towel. Continue blotting until no more soil can be removed.
- For solid soils, remove as much as possible prior to vacuuming.

To clean:

1. Saturate a clean, lint-free colorfast cloth with water. Microfiber cloth is recommended to prevent lint transfer to the fabric or carpet.
2. Remove excess moisture by gently wringing until water does not drip from the cleaning cloth.
3. Start on the outside edge of the soil and gently rub toward the center. Fold the cleaning cloth to a clean area frequently to prevent forcing the soil in to the fabric.
4. Continue gently rubbing the soiled area until there is no longer any color transfer from the soil to the cleaning cloth.
5. If the soil is not completely removed, use a mild soap solution followed only by plain water.

If the soil is not completely removed, it may be necessary to use a commercial upholstery cleaner or spot lifter. Test a small hidden area for colorfastness before using a commercial upholstery cleaner or spot lifter. If ring formation occurs, clean the entire fabric or carpet.

After cleaning, use a paper towel to blot excess moisture.

Cleaning High Gloss Surfaces and Vehicle Information and Radio Displays

Use a microfiber cloth on high gloss surfaces or vehicle displays. First, use a soft bristle brush to remove dirt that can scratch the surface. Then gently clean by rubbing with a microfiber cloth. Never use window cleaners or solvents. Periodically hand wash the microfiber cloth separately, using mild soap. Do not use bleach or fabric softener. Rinse thoroughly and air dry before next use.

Caution

Do not attach a device with a suction cup to the display. This may cause damage and would not be covered by the vehicle warranty.

Instrument Panel, Leather, Vinyl, Other Plastic Surfaces, Low Gloss Paint Surfaces, and Natural Open Pore Wood Surfaces

Use a soft microfiber cloth dampened with water to remove dust and loose dirt. For a more thorough cleaning, use a soft microfiber cloth dampened with a mild soap solution.

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Caution

Soaking or saturating leather, especially perforated leather, as well as other interior surfaces, may cause permanent damage. Wipe excess moisture from these surfaces after cleaning and allow them to dry naturally. Never use heat, steam, or spot removers. Do not use cleaners that contain silicone or wax-based products. Cleaners containing these solvents can permanently change the appearance and feel of leather or soft trim, and are not recommended.

Do not use cleaners that increase gloss, especially on the instrument panel. Reflected glare can decrease visibility through the windshield under certain conditions.

Caution

Use of air fresheners may cause permanent damage to plastics and painted surfaces. If an air freshener comes in contact with any plastic or painted surface in the vehicle, blot immediately and clean with a soft cloth dampened with a mild soap solution. Damage caused by air fresheners would not be covered by the vehicle warranty.

Cargo Cover and Convenience Net

Wash with warm water and mild detergent. Do not use chlorine bleach. Rinse with cold water, and then dry completely.

Care of Safety Belts

Keep belts clean and dry.

⚠ Warning

Do not bleach or dye safety belt webbing. It may severely weaken the webbing. In a crash, they might not be able to provide adequate protection. Clean and rinse safety belt webbing only with mild soap and lukewarm water. Allow the webbing to dry.

Floor Mats

⚠ Warning

If a floor mat is the wrong size or is not properly installed, it can interfere with the pedals. Interference with the pedals can cause unintended acceleration and/or increased stopping distance which can cause a crash and injury. Make sure the floor mat does not interfere with the pedals.

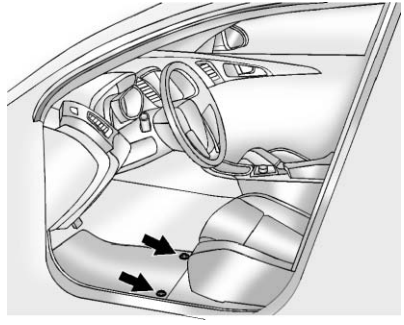
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Use the following guidelines for proper floor mat usage:

- The original equipment floor mats were designed for your vehicle. If the floor mats need replacing, it is recommended that GM certified floor mats be purchased. Non-GM floor mats may not fit properly and may interfere with the pedals. Always check that the floor mats do not interfere with the pedals.
- Do not use a floor mat if the vehicle is not equipped with a floor mat retainer on the driver side floor.
- Use the floor mat with the correct side up. Do not turn it over.
- Do not place anything on top of the driver side floor mat.
- Use only a single floor mat on the driver side.
- Do not place one floor mat on top of another.

Removing and Replacing the Floor Mats

Pull up on the rear of the floor mat to unlock each retainer and remove.



Reinstall by lining up the floor mat retainer openings over the carpet retainers and snap into position.

Make sure the floor mat is properly secured in place.

Verify the floor mat does not interfere with the pedals.

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Service and Maintenance

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General Information

Your vehicle is an important investment. This section describes the required maintenance for the vehicle. Follow this schedule to help protect against major repair expenses resulting from neglect or inadequate maintenance. It may also help to maintain the value of the vehicle if it is sold. It is the responsibility of the owner to have all required maintenance performed.

Your dealer has trained technicians who can perform required maintenance using genuine replacement parts. They have up-to-date tools and equipment for fast and accurate diagnostics. Many dealers have extended evening and Saturday hours, courtesy transportation, and online scheduling to assist with service needs.

Your dealer recognizes the importance of providing competitively priced maintenance and repair services. With trained technicians, the dealer is the place for routine maintenance such as oil changes and tire rotations and additional maintenance items like tires, brakes, batteries, and wiper blades.

Caution

Damage caused by improper maintenance can lead to costly repairs and may not be covered by the vehicle warranty. Maintenance intervals, checks, inspections, recommended fluids, and lubricants are important to keep the vehicle in good working condition.

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The Tire Rotation and Required Services are the responsibility of the vehicle owner. It is recommended to have your dealer perform these services every 12 000 km/7,500 mi. Proper vehicle maintenance helps to keep the vehicle in good working condition, improves fuel economy, and reduces vehicle emissions.

Because of the way people use vehicles, maintenance needs vary. There may need to be more frequent checks and services. The Additional Required Services - Normal are for vehicles that:

- Carry passengers and cargo within recommended limits on the Tire and Loading Information label. See *Vehicle Load Limits* ⇨ *171*.
- Are driven on reasonable road surfaces within legal driving limits.
- Use the recommended fuel. See *Fuel* ⇨ *230*.

Refer to the information in the Maintenance Schedule Additional Required Services - Normal chart.

The Additional Required Services - Severe are for vehicles that are:

- Mainly driven in heavy city traffic in hot weather.
- Mainly driven in hilly or mountainous terrain.
- Frequently towing a trailer.
- Used for high speed or competitive driving.
- Used for taxi, police, or delivery service.

Refer to the information in the Maintenance Schedule Additional Required Services - Severe chart.

⚠ Warning

Performing maintenance work can be dangerous and can cause serious injury. Perform maintenance work only if the required information, proper tools, and equipment are available.
If they are not, see your dealer to have a trained technician do the work. See *Doing Your Own Service Work* ⇨ *239*.

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Maintenance Schedule

Owner Checks and Services

At Each Fuel Stop

- Check the engine oil level. See *Engine Oil* ⇨ *243*.

Once a Month

- Check the tire inflation pressures. See *Tire Pressure* ⇨ *278*.
- Inspect the tires for wear. See *Tire Inspection* ⇨ *284*.
- Check the windshield washer fluid level. See *Washer Fluid* ⇨ *253*.
- Engine, power electronics, and high voltage battery pack coolant level checks. See *Cooling System (Engine)* ⇨ *248* or *Cooling System (High Voltage Battery)* ⇨ *248* or *Cooling System (Power Electronics and Charger Modules)* ⇨ *249*.

Engine Oil Change

Every 24 months or when the CHANGE ENGINE OIL SOON message displays, change the engine oil and filter as soon as possible, within the next 1 000 km/ 600 mi. The engine oil and filter must be changed at least once every 24 months. After each oil and filter change, the oil life system must be reset. See *Engine Oil Life System* ⇨ *245*. More frequent changes may be required when the vehicle is exposed to a corrosive environment, such as areas of high humidity, along an ocean coast, and/or areas that apply road salt during winter.

Your trained dealer technician can perform this work. If the engine oil life system is reset accidentally, service the vehicle within 5 000 km/ 3,000 mi since the last service. Reset the oil life system when the oil is changed.

Tire Rotation and Required Services Every 12 000 km/ 7,500 mi

Rotate the tires, if recommended for the vehicle, and perform the following services. See *Tire Rotation* ⇨ *284*.

- Check engine oil level and oil life percentage. If needed, change engine oil and filter, and reset oil life system. See *Engine Oil* ⇨ *243* and *Engine Oil Life System* ⇨ *245*.
- Check engine coolant level. See *Engine Coolant* ⇨ *250*.
- Check windshield washer fluid level. See *Washer Fluid* ⇨ *253*.
- Visually inspect windshield wiper blades for wear, cracking, or contamination. See *Exterior Care* ⇨ *314*. Replace worn or damaged wiper blades. See *Wiper Blade Replacement* ⇨ *258*.
- Check tire inflation pressures. See *Tire Pressure* ⇨ *278*.

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- Inspect tire wear. See *Tire Inspection* ⇨ *284*.
- Visually check for fluid leaks.
- Inspect engine air cleaner filter. See *Engine Air Cleaner/ Filter* ⇨ *246*.
- Inspect brake system. See *Exterior Care* ⇨ *314*.
- Visually inspect steering, suspension, and chassis components for damaged, loose, or missing parts or signs of wear. See *Exterior Care* ⇨ *314*.
- Check restraint system components. See *Safety System Check* ⇨ *62*.
- Visually inspect fuel system for damage or leaks.
- Visually inspect exhaust system and nearby heat shields for loose or damaged parts.
- Lubricate body components. See *Exterior Care* ⇨ *314*.
- Check electric drive unit shift lock control function. See *Electric Drive Unit Shift Lock Control Function Check* ⇨ *258*.
- Check parking brake and electric drive unit mechanism. See *Park Brake and P (Park) Mechanism Check* ⇨ *258*.
- Check accelerator pedal for damage, high effort, or binding. Replace if needed.
- Visually inspect gas strut for signs of wear, cracks, or other damage. Check the hold open ability of the strut. See your dealer if service is required.
- Check tire sealant expiration date, if equipped. See *Tire Sealant and Compressor Kit* ⇨ *293*.

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Maintenance Schedule Additional Required Services - Normal	12 000 km/7,500 mi	24 000 km/15,000 mi	36 000 km/22,500 mi	48 000 km/30,000 mi	60 000 km/37,500 mi	72 000 km/45,000 mi	84 000 km/52,500 mi	96 000 km/60,000 mi	108 000 km/67,500 mi	120 000 km/75,000 mi	132 000 km/82,500 mi	144 000 km/90,000 mi	156 000 km/97,500 mi	168 000 km/105,000 mi	180 000 km/112,500 mi	192 000 km/120,000 mi	204 000 km/127,500 mi	216 000 km/135,000 mi	228 000 km/142,500 mi	240 000 km/150,000 mi
Rotate tires and perform Required Services. Check engine oil level and oil life percentage. Change engine oil and filter, if needed.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Replace passenger compartment air filter. (1)			✓			✓			✓			✓			✓			✓		
Inspect evaporative control system. (2)						✓						✓						✓		
Replace engine air cleaner filter. (3)						✓						✓						✓		
Change electric drive unit fluid.																				✓
Replace spark plugs. Inspect spark plug wires.													✓							
Drain and fill engine, power electronics, and high voltage battery cooling systems. (4)																				✓
Visually inspect accessory drive belts. (5)																				✓
Replace brake fluid. (6)																				

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Footnotes — Maintenance Schedule Additional Required Services - Normal

(1) Or every two years, whichever comes first. More frequent passenger compartment air filter replacement may be needed if driving in areas with heavy traffic, poor air quality, high dust levels, or environmental allergens. Passenger compartment air filter replacement may also be needed if there is reduced airflow, window fogging, or odors. Your GM dealer can help determine when to replace the filter.

(2) Check all fuel and vapor lines and hoses for proper hook-up, routing, and condition.

(3) Or every four years, whichever comes first. If driving in dusty conditions, inspect the filter at each oil change or more often as needed.

(4) Or every five years, whichever comes first. See *Cooling System (Engine)* ⇨ *248* or *Cooling System (High Voltage Battery)* ⇨ *248* or *Cooling System (Power Electronics and Charger Modules)* ⇨ *249*.

(5) Or every 10 years, whichever comes first. Inspect for fraying, excessive cracking, or damage; replace, if needed.

(6) Replace brake fluid every five years. See *Brake Fluid* ⇨ *254*.

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Maintenance Schedule Additional Required Services - Severe	12 000 km/7,500 mi	24 000 km/15,000 mi	36 000 km/22,500 mi	48 000 km/30,000 mi	60 000 km/37,500 mi	72 000 km/45,000 mi	84 000 km/52,500 mi	96 000 km/60,000 mi	108 000 km/67,500 mi	120 000 km/75,000 mi	132 000 km/82,500 mi	144 000 km/90,000 mi	156 000 km/97,500 mi	168 000 km/105,000 mi	180 000 km/112,500 mi	192 000 km/120,000 mi	204 000 km/127,500 mi	216 000 km/135,000 mi	228 000 km/142,500 mi	240 000 km/150,000 mi
Rotate tires and perform Required Services. Check engine oil level and oil life percentage. Change engine oil and filter, if needed.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Replace passenger compartment air filter. (1)			✓			✓			✓			✓			✓			✓		
Inspect evaporative control system. (2)						✓						✓						✓		
Replace engine air cleaner filter. (3)						✓						✓						✓		
Change electric drive unit fluid.						✓						✓						✓		
Replace spark plugs. Inspect spark plug wires.													✓							
Drain and fill engine, power electronics, and high voltage battery cooling systems. (4)																				✓
Visually inspect accessory drive belts. (5)																				✓
Replace brake fluid. (6)																				

Footnotes — Maintenance Schedule Additional Required Services - Severe

(1) Or every two years, whichever comes first. More frequent passenger compartment air filter replacement may be needed if driving in areas with heavy traffic, poor air quality, high dust levels, or environmental allergens. Passenger compartment air filter replacement may also be needed if there is reduced airflow, window fogging, or odors. Your GM dealer can help determine when to replace the filter.

(2) Check all fuel and vapor lines and hoses for proper hook-up, routing, and condition.

(3) Or every four years, whichever comes first. If driving in dusty conditions, inspect the filter at each oil change or more often as needed.

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(4) Or every five years, whichever comes first. See *Cooling System (Engine)* ⇨ *248* or *Cooling System (High Voltage Battery)* ⇨ *248* or *Cooling System (Power Electronics and Charger Modules)* ⇨ *249*.

(5) Or every 10 years, whichever comes first. Inspect for fraying, excessive cracking, or damage; replace, if needed.

(6) Replace brake fluid every five years. See *Brake Fluid* ⇨ *254*.

Special Application Services

- Severe Commercial Use Vehicles Only: Lubricate chassis components every 5 000 km/ 3,000 mi.
- Have underbody flushing service performed. See "Underbody Maintenance" in *Exterior Care* ⇨ *314*.

Additional Maintenance and Care

Your vehicle is an important investment and caring for it properly may help to avoid future costly repairs. To maintain vehicle performance, additional maintenance services may be required.

It is recommended that your dealer perform these services — their trained dealer technicians know your vehicle best. Your dealer can also perform a thorough assessment with a multi-point inspection to recommend when your vehicle may need attention.

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The following list is intended to explain the services and conditions to look for that may indicate services are required.

Battery

The 12-volt battery supplies power to start the engine and operate any additional electrical accessories.

- To avoid break-down or failure to start the vehicle, maintain a battery with full cranking power.
- Trained dealer technicians have the diagnostic equipment to test the battery and ensure that the connections and cables are corrosion-free.

Belts

- Belts may need replacing if they squeak or show signs of cracking or splitting.
- Trained dealer technicians have access to tools and equipment to inspect the belts and recommend adjustment or replacement when necessary.

Brakes

Brakes stop the vehicle and are crucial to safe driving.

- Signs of brake wear may include chirping, grinding, or squealing noises, or difficulty stopping.
- Trained dealer technicians have access to tools and equipment to inspect the brakes and recommend quality parts engineered for the vehicle.

Fluids

Proper fluid levels and approved fluids protect the vehicle's systems and components. See *Recommended Fluids and Lubricants* ⇨ *334* for GM approved fluids.

- Engine oil and windshield washer fluid levels should be checked at every fuel fill.
- Instrument cluster lights may come on to indicate that fluids may be low and need to be filled.

Hoses

Hoses transport fluids and should be regularly inspected to ensure that there are no cracks or leaks. With a multi-point inspection, your dealer can inspect the hoses and advise if replacement is needed.

Lamps

Properly working headlamps, taillamps, and brake lamps are important to see and be seen on the road.

- Signs that the headlamps need attention include dimming, failure to light, cracking, or damage. The brake lamps need to be checked periodically to ensure that they light when braking.
- With a multi-point inspection, your dealer can check the lamps and note any concerns.

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Shocks and Struts

Shocks and struts help aid in control for a smoother ride.

- Signs of wear may include steering wheel vibration, bounce/sway while braking, longer stopping distance, or uneven tire wear.
- As part of the multi-point inspection, trained dealer technicians can visually inspect the shocks and struts for signs of leaking, blown seals, or damage, and can advise when service is needed.

Tires

Tires need to be properly inflated, rotated, and balanced. Maintaining the tires can save money and fuel, and can reduce the risk of tire failure.

- Signs that the tires need to be replaced include three or more visible treadwear indicators; cord or fabric showing through the rubber; cracks or cuts in the tread or sidewall; or a bulge or split in the tire.
- Trained dealer technicians can inspect and recommend the right tires. Your dealer can also provide tire/wheel balancing services to ensure smooth vehicle operation at all speeds. Your dealer sells and services name brand tires.

Vehicle Care

To help keep the vehicle looking like new, vehicle care products are available from your dealer. For information on how to clean and protect the vehicle's interior and exterior, see *Interior Care* ⇨ *319* and *Exterior Care* ⇨ *314*.

Wheel Alignment

Wheel alignment is critical for ensuring that the tires deliver optimal wear and performance.

- Signs that the alignment may need to be adjusted include pulling, improper vehicle handling, or unusual tire wear.
- Your dealer has the required equipment to ensure proper wheel alignment.

Windshield

For safety, appearance, and the best viewing, keep the windshield clean and clear.

- Signs of damage include scratches, cracks, and chips.
- Trained dealer technicians can inspect the windshield and recommend proper replacement if needed.

Wiper Blades

Wiper blades need to be cleaned and kept in good condition to provide a clear view.

- Signs of wear include streaking, skipping across the windshield, and worn or split rubber.
- Trained dealer technicians can check the wiper blades and replace them when needed.

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Recommended Fluids, Lubricants, and Parts

Recommended Fluids and Lubricants

Usage	Fluid/Lubricant
Engine Oil	Engine oil meeting the dexos1™ specification of the proper SAE viscosity grade. ACDelco dexos1 Synthetic Blend is recommended. See *Engine Oil ⇨ 243*.
Engine Cooling System	Premix DEX-COOL® (GM Part No. 12378390, in Canada 10953456). See *Engine Coolant ⇨ 250*.
High Voltage Battery Cooling System	Premix DEX-COOL (GM Part No. 12378390, in Canada 10953456).
Power Electronics Cooling System	Premix DEX-COOL (GM Part No. 12378390, in Canada 10953456).
Brake Hydraulic System	DOT 3 Hydraulic Brake Fluid (GM Part No. 19299818, in Canada 19299819).
Windshield Washer	Automotive windshield washer fluid that meets regional freeze protection requirements.
Electric Drive Unit	DEXRON®-VI Automatic Transmission Fluid.
Key Lock Cylinders, Hood and Hatch Hinges	Multi-Purpose Lubricant, Superlube (GM Part No. 12346241, in Canada 10953474).
Weatherstrip Conditioning	Weatherstrip Lubricant (GM Part No. 3634770, in Canada 10953518) or Dielectric Silicone Grease (GM Part No. 12345579, in Canada 10953481.

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Maintenance Replacement Parts

Replacement parts identified below by name, part number, or specification can be obtained from your dealer.

Part	GM Part Number	ACDelco Part Number
Engine Air Cleaner/Filter	20871244	A3148C
Cabin Air Filter	13508023	CF185
Engine Oil Filter	12670058	UPF64R
Spark Plugs	12637197	41-124
Wiper Blades		
Left – 65 cm (25.6 in)	23251330	—
Right – 65 cm (25.6 in)	23251332	—

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Maintenance Records

After the scheduled services are performed, record the date, odometer reading, who performed the service, and the type of services performed in the boxes provided. Retain all maintenance receipts.

Date	Odometer Reading	Serviced By	Services Performed

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Technical Data

Vehicle Identification
Vehicle Identification Number (VIN) 337
Service Parts Identification Label 337

Vehicle Data
Capacities and Specifications 338
Engine Drive Belt Routing 340

Vehicle Identification

Vehicle Identification Number (VIN)



This legal identifier is in the front corner of the instrument panel, on the left side of the vehicle. It can be seen through the windshield from outside. The VIN also appears on the Vehicle Certification and Service Parts labels and certificates of title and registration.

Engine Identification

The eighth character in the VIN is the engine code. This code identifies the vehicle's engine, specifications, and replacement parts. See “Engine Specifications” under *Capacities and Specifications* ⇨ *338* for the vehicle's engine code.

Service Parts Identification Label

This label, on the inside of the glove box, has the following information:

- Vehicle Identification Number (VIN).
- Model designation.
- Paint information.
- Production options and special equipment.

Do not remove this label from the vehicle.

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Vehicle Data

Capacities and Specifications

The following approximate capacities are given in metric and English conversions. Refer to *Recommended Fluids and Lubricants* ⇨ *334* for more information.

Application	Capacities	
	Metric	English
Air Conditioning Refrigerant	For the air conditioning system refrigerant charge type and amount, see the refrigerant label under the hood. See your dealer for more information.	
Cooling Systems		
Engine	7.0 L	7.4 qt
High Voltage Battery	4.2 L	4.5 qt
Power Electronics	4.8 L	5.0 qt
Engine Oil with Filter	4.0 L	4.2 qt
Fuel Tank	33.7 L	8.9 gal

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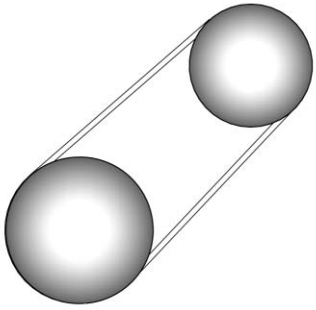
Application	Capacities	
	Metric	English
Electric Drive Unit	6.75 L	7.13 qt
Wheel Nut Torque	140 N•m	100 lb ft
All capacities are approximate. When adding, be sure to fill to the approximate level, as recommended in this manual.		

Engine Specifications

Engine	VIN Code	Electric Drive Unit	Spark Plug Gap
1.5L L4	5	Automatic	0.80–0.90 mm (0.031–0.035 in)

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Engine Drive Belt Routing



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Customer Information

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Customer Information

Customer Satisfaction Procedure

Your satisfaction and goodwill are important to your dealer and to Chevrolet. Normally, any concerns with the sales transaction or the operation of the vehicle will be resolved by your dealer's sales or service departments. Sometimes, however, despite the best intentions of all concerned, misunderstandings can occur. If your concern has not been resolved to your satisfaction, the following steps should be taken:

STEP ONE : Discuss your concern with a member of dealership management. Normally, concerns can be quickly resolved at that level. If the matter has already been reviewed with the sales, service, or parts manager, contact the owner of your dealership or the general manager.

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STEP TWO : If after contacting a member of dealership management, it appears your concern cannot be resolved by your dealership without further help, in the U.S., call the Chevrolet Customer Assistance Center at 1-877-486-5846. In Canada, call General Motors of Canada Customer Care Centre at 1-800-263-3777 (English), or 1-800-263-7854 (French).

We encourage you to call the toll-free number in order to give the inquiry prompt attention. Have the following information available to give the Customer Assistance representative:

- Vehicle Identification Number (VIN). This is available from the vehicle registration or title, or the plate at the top left of the instrument panel and visible through the windshield.
- Dealership name and location.
- Vehicle delivery date and present mileage.

When contacting Chevrolet, remember that your concern will likely be resolved at a dealer's facility. That is why we suggest following Step One first.

STEP THREE — U.S. Owners : Both General Motors and your dealer are committed to making sure you are completely satisfied with the new vehicle. However, if you continue to remain unsatisfied after following the procedure outlined in Steps One and Two, you can file with the Better Business Bureau (BBB) Auto Line® Program to enforce your rights.

The BBB Auto Line Program is an out-of-court program administered by the Council of Better Business Bureaus to settle automotive disputes regarding vehicle repairs or the interpretation of the New Vehicle Limited Warranty. Although you may be required to resort to this informal dispute resolution program prior to filing a court action, use of the program is free of charge and your case will generally be heard within 40 days. If you do not agree with the decision given in your case, you may reject it and proceed with any other venue for relief available to you.

You may contact the BBB Auto Line Program using the toll-free telephone number or write them at the following address:

BBB Auto Line Program
Council of Better Business Bureaus, Inc.
3033 Wilson Boulevard
Suite 600 , Arlington, VA 22201
Telephone: 1-800-955-5100
http://www.bbb.org/council/programs-services/dispute-handling-and-resolution/bbb-auto-line

This program is available in all 50 states and the District of Columbia. Eligibility is limited by vehicle age, mileage, and other factors. General Motors reserves the right to change eligibility limitations and/or discontinue its participation in this program.

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STEP THREE — Canadian Owners : In the event that you do not feel your concerns have been addressed after following the procedure outlined in Steps One and Two, General Motors of Canada Company wants you to be aware of its participation in a no-charge Mediation/Arbitration Program. General Motors of Canada Company has committed to binding arbitration of owner disputes involving factory-related vehicle service claims. The program provides for the review of the facts involved by an impartial third party arbiter, and may include an informal hearing before the arbiter. The program is designed so that the entire dispute settlement process, from the time you file your complaint to the final decision, should be completed in about 70 days. We believe our impartial program offers advantages over courts in most jurisdictions because it is informal, quick, and free of charge.

For further information concerning eligibility in the Canadian Motor Vehicle Arbitration Plan (CAMVAP), call toll-free 1-800-207-0685, or call the General Motors Customer Care Centre, 1-800-263-3777 (English), 1-800-263-7854 (French), or write to:

The Mediation/Arbitration Program
c/o Customer Care Centre
General Motors of Canada Company
Mail Code: CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

The inquiry should be accompanied by the Vehicle Identification Number (VIN).

Customer Assistance Offices

Chevrolet encourages customers to call the toll-free number for assistance. However, if a customer wishes to write or e-mail Chevrolet, the letter should be addressed to:

United States and Puerto Rico

Chevrolet Motor Division
Chevrolet Customer Assistance Center
P.O. Box 33170
Detroit, MI 48232-5170
www.Chevrolet.com

1-877-486-5846
1-800-833-2438 (For Text Telephone Devices (TTYs))
Roadside Assistance:
1-888-811-1926

From U.S. Virgin Islands:

1-800-496-9994

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Canada

General Motors of Canada Company
Customer Care Centre,
Mail Code: CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7
www.gm.ca

1-800-263-3777 (English)
1-800-263-7854 (French)
1-800-263-3830 (For Text Telephone devices (TTYs))
Roadside Assistance:
1-800-268-6800

Overseas

Please contact the local General Motors Business Unit.

Customer Assistance for Text Telephone (TTY) Users

To assist customers who are deaf, hard of hearing, or speech-impaired and who use Text Telephones (TTYs), Chevrolet has TTY equipment available at its Customer Assistance Center. Any TTY user in the U.S. can communicate with Chevrolet by dialing: 1-800-833-2438. TTY users in Canada can dial 1-800-263-3830.

Online Owner Center

Online Owner Experience (U.S.) my.chevrolet.com

The Chevrolet online owner experience allows interaction with Chevrolet and keeps important vehicle-specific information in one place.

Membership Benefits

: Download owner manuals and view vehicle-specific how-to videos.

: View maintenance schedules, alerts, and OnStar Vehicle Diagnostic Information. Schedule service appointments.

: View and print dealer-recorded service records and self-recorded service records.

: Select a preferred dealer and view locations, maps, phone numbers, and hours.

: Track your vehicle's warranty information.

: View active recalls by Vehicle Identification Number (VIN). See *Vehicle Identification Number (VIN)* ⇨ *337*.

: View GM Card, SiriusXM Satellite radio (if equipped), and OnStar account information.

: Chat with online help representatives.

See my.chevrolet.com to register your vehicle.

Chevrolet Owner Centre (Canada) chevroletowner.ca

Visit the Chevrolet Owner Centre:

- Chat live with online help representatives.
- Locate owner resources such as lease-end, financing, and warranty information.
- Retrieve your favorite articles, quizzes, tips, and multimedia galleries organized into the Featured Articles and Auto Care Sections.

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- Download owner manuals.
- Find the Chevrolet-recommended maintenance services.

GM Mobility Reimbursement Program

This program is available to qualified applicants for cost reimbursement of eligible aftermarket adaptive equipment required for the vehicle, such as hand controls or a wheelchair/scooter lift for the vehicle.

For more information on the limited offer, visit www.gmmobility.com or call the GM Mobility Assistance Center at 1-800-323-9935. Text Telephone (TTY) users, call 1-800-833-9935.

General Motors of Canada also has a Mobility Program. Visit www.gm.ca or call 1-800-GM-DRIVE (463-7483) for details. TTY users call 1-800-263-3830.

Roadside Assistance Program

From the U.S., call 1-888-811-1926; (Text Telephone (TTY): 1-888-889-2438).

From Canada, call 1-800-268-6800.

Service is available 24 hours a day, 365 days a year.

Calling for Assistance

When calling Roadside Assistance, have the following information ready:

- Your name, home address, and home telephone number.
- Telephone number of your location.
- Location of the vehicle.
- Model, year, color, and license plate number of the vehicle.
- Odometer reading, Vehicle Identification Number (VIN), and delivery date of the vehicle.
- Description of the problem.

Coverage

Services are provided for the duration of the vehicle's powertrain warranty.

In the U.S., anyone driving the vehicle is covered. In Canada, a person driving the vehicle without permission from the owner is not covered.

Roadside Assistance is not a part of the New Vehicle Limited Warranty. General Motors North America and Chevrolet reserve the right to make any changes or discontinue the Roadside Assistance program at any time without notification.

General Motors North America and Chevrolet reserve the right to limit services or payment to an owner or driver if they decide the claims are made too often, or the same type of claim is made many times.

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Services Provided

- **Emergency Fuel Delivery:** Delivery of enough fuel for the vehicle to get to the nearest service station.
- **Lock-Out Service:** Service to unlock the vehicle if you are locked out. A remote unlock may be available if you have OnStar. For security reasons, the driver must present identification before this service is given.
- **Emergency Tow from a Public Road or Highway:** Tow to the nearest certified Volt or ELR dealer for warranty service, or if the vehicle was in a crash and cannot be driven. Assistance is not given when the vehicle is stuck in the sand, mud, or snow.

 Emergency towing may be covered during the Extended Vehicle (EV) warranty.
- **Flat Tire Change:** Service to change a flat tire with the tire sealant and compressor kit. If the tire has been separated from the wheel, has damaged sidewalls, or has a large puncture, the tire is too severely damaged for the tire sealant and compressor kit to be effective and the vehicle will have to be towed. It is the owner's responsibility for the repair or replacement of the tire if it is not covered by the warranty.
- **Battery Jump Start:** Service to jump start a dead battery.
- **Trip Interruption Benefits and Assistance:** If your trip is interrupted due to a warranty event, incidental expenses may be reimbursed within the Powertrain warranty period. Items considered are reasonable and customary hotel, meals, rental car, or a vehicle being delivered back to the customer, up to 805 km (500 mi).

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Services Not Included in Roadside Assistance

- Impound towing caused by violation of any laws.
- Legal fines.
- Mounting, dismounting, or changing of snow tires, chains, or other traction devices.

Service is not provided if a vehicle is in an area that is not accessible to the service vehicle or is not a regularly traveled or maintained public road, which includes ice and winter roads. Off-road use is not covered.

Services Specific to Canadian Vehicles

- **Lock-Out Service:** Vehicle registration is required.
- **Trip Interruption Benefits and Assistance:** Must be over 150 km (93 mi) from where the trip was started to qualify. Pre-authorization, original detailed receipts, and a copy of the repair orders are required.

Once authorization has been received, the Roadside Assistance advisor will help to make arrangements and explain how to receive payment.

- **Alternative Service:** If assistance cannot be provided right away, the Roadside Assistance advisor may give permission to get local emergency road service. You will receive payment, up to $100, after sending the original receipt to Roadside Assistance. Mechanical failures may be covered, however any cost for parts and labor for repairs not covered by the warranty are the owner's responsibility.

Scheduling Service Appointments

When the vehicle requires warranty service, contact your dealer and request an appointment. By scheduling a service appointment and advising the service consultant of your transportation needs, your dealer can help minimize your inconvenience.

If the vehicle cannot be scheduled into the service department immediately, keep driving it until it can be scheduled for service, unless, of course, the problem is safety related. If it is, please call your dealership, let them know this, and ask for instructions.

If your dealer requests you to bring the vehicle for service, you are urged to do so as early in the work day as possible to allow for same-day repair.

Courtesy Transportation Program

To enhance your ownership experience, we and our participating dealers are proud to offer Courtesy Transportation, a customer support program for vehicles with the Bumper-to-Bumper (Base Warranty Coverage period in Canada), and extended powertrain in both the U.S. and Canada.

Several Courtesy Transportation options are available to assist in reducing inconvenience when warranty repairs are required.

Courtesy Transportation is not a part of the New Vehicle Limited Warranty. A separate booklet entitled “Limited Warranty and Owner Assistance Information” furnished with each new vehicle provides detailed warranty coverage information.

Transportation Options

Warranty service can generally be completed while you wait. However, if you are unable to do so, your dealer may offer the following transportation options:

Shuttle Service

This includes one-way or round-trip shuttle service within reasonable time and distance parameters of your dealer's area.

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Public Transportation or Fuel Reimbursement

If overnight warranty repairs are needed, and public transportation is used, the expense must be supported by original receipts and within the maximum amount allowed by GM for shuttle service. If U.S. customers arrange their own transportation, limited reimbursement for reasonable fuel expenses may be available. Claim amounts should reflect actual costs and be supported by original receipts. See your dealer for information.

Courtesy Rental Vehicle

For an overnight warranty repair, the dealer may provide an available courtesy rental vehicle or provide for reimbursement of a rental vehicle. Reimbursement is limited and must be supported by original receipts as well as a signed and completed rental agreement and meet state/provincial, local, and rental vehicle provider requirements. Requirements vary and may include minimum age requirements, insurance coverage, credit card, etc. Additional fees such as fuel usage charges, taxes, levies, usage fees, excessive mileage, or rental usage beyond the completion of the repair are also your responsibility.

It may not be possible to provide a like vehicle as a courtesy rental.

Additional Program Information

All program options, such as shuttle service, may not be available at every dealer. Contact your dealer for specific availability.

General Motors reserves the right to unilaterally modify, change, or discontinue Courtesy Transportation at any time and to resolve all questions of claim eligibility pursuant to the terms and conditions described herein at its sole discretion.

Collision Damage Repair

If the vehicle is involved in a collision and it is damaged, have the damage repaired by a qualified technician using the proper equipment and quality replacement parts. Poorly performed collision repairs diminish the vehicle resale value, and safety performance can be compromised in subsequent collisions.

Collision Parts

Genuine GM Collision parts are new parts made with the same materials and construction methods as the parts with which the vehicle was originally built. Genuine GM Collision parts are the best choice to ensure that the vehicle's designed appearance, durability, and safety are preserved. The use of Genuine GM parts can help maintain the GM New Vehicle Limited Warranty.

Recycled original equipment parts may also be used for repair. These parts are typically removed from vehicles that were total losses in prior crashes. In most cases, the parts being recycled are from undamaged sections of the vehicle. A recycled original equipment GM part may be an acceptable choice to maintain the vehicle's originally designed appearance and safety

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performance; however, the history of these parts is not known. Such parts are not covered by the GM New Vehicle Limited Warranty, and any related failures are not covered by that warranty.

Aftermarket collision parts are also available. These are made by companies other than GM and may not have been tested for the vehicle. As a result, these parts may fit poorly, exhibit premature durability/ corrosion problems, and may not perform properly in subsequent collisions. Aftermarket parts are not covered by the GM New Vehicle Limited Warranty, and any vehicle failure related to such parts is not covered by that warranty.

Repair Facility

GM also recommends that you choose a collision repair facility that meets your needs before you ever need collision repairs. Your dealer may have a collision repair center with GM-trained technicians and state-of-the-art equipment, or be able to recommend a collision repair center that has GM-trained technicians and comparable equipment.

Insuring the Vehicle

Protect your investment in the GM vehicle with comprehensive and collision insurance coverage. There are significant differences in the quality of coverage afforded by various insurance policy terms. Many insurance policies provide reduced protection to the GM vehicle by limiting compensation for damage repairs by using aftermarket collision parts. Some insurance companies will not specify aftermarket collision parts. When purchasing insurance, we recommend that you ensure that the vehicle will be repaired with GM original equipment collision parts. If such insurance coverage is not available from your current insurance carrier, consider switching to another insurance carrier.

If the vehicle is leased, the leasing company may require you to have insurance that ensures repairs with Genuine GM Original Equipment Manufacturer (OEM) parts or Genuine Manufacturer replacement parts. Read the lease carefully, as you may be charged at the end of the lease for poor quality repairs.

If a Crash Occurs

If there has been an injury, call emergency services for help. Do not leave the scene of a crash until all matters have been taken care of. Move the vehicle only if its position puts you in danger, or you are instructed to move it by a police officer.

Give only the necessary information to police and other parties involved in the crash.

For emergency towing see *Roadside Assistance Program* ⇨ *345*.

Gather the following information:

- Driver name, address, and telephone number.
- Driver license number.
- Owner name, address, and telephone number.

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- Vehicle license plate number.
- Vehicle make, model, and model year.
- Vehicle Identification Number (VIN).
- Insurance company and policy number.
- General description of the damage to the other vehicle.

Choose a reputable repair facility that uses quality replacement parts. See “Collision Parts” earlier in this section.

In a crash, the sensing system may shut down the high voltage system. See *Battery - North America* ⇨ *256* for important safety information. If an airbag has inflated, see *What Will You See after an Airbag Inflates?* ⇨ *68*.

If the vehicle is damaged from a crash, flood, fire, or other event it may be necessary to have the vehicle inspected. See*Battery - North America* ⇨ *256* and *High Voltage Safety Information* ⇨ *19* for important safety information.

Managing the Vehicle Damage Repair Process

In the event that the vehicle requires damage repairs, GM recommends that you take an active role in its repair. If you have a pre-determined repair facility of choice, take the vehicle there, or have it towed there. Specify to the facility that any required replacement collision parts be original equipment parts, either new Genuine GM parts or recycled original GM parts. Remember, recycled parts will not be covered by the GM vehicle warranty.

Insurance pays the bill for the repair, but you must live with the repair. Depending on your policy limits, your insurance company may initially value the repair using aftermarket parts. Discuss this with the repair professional, and insist on Genuine GM parts. Remember, if the vehicle is leased, you may be obligated to have the vehicle repaired with Genuine GM parts, even if your insurance coverage does not pay the full cost.

If another party's insurance company is paying for the repairs, you are not obligated to accept a repair valuation based on that insurance company's collision policy repair limits, as you have no contractual limits with that company. In such cases, you can have control of the repair and parts choices as long as the cost stays within reasonable limits.

Service Publications Ordering Information

Service Manuals

Service Manuals have the diagnosis and repair information on the engine, electric drive unit, axle, suspension, brakes, electrical, steering, body, etc.

Service Bulletins

Service Bulletins give additional technical service information needed to knowledgeably service General Motors cars and trucks. Each bulletin contains instructions to assist in the diagnosis and service of the vehicle.

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Owner Information

Owner publications are written specifically for owners and intended to provide basic operational information about the vehicle. The Owner Manual includes the Maintenance Schedule for all models.

In-Portfolio: Includes a Portfolio, Owner Manual, and Warranty Booklet.

RETAIL SELL PRICE: $35.00 to $40.00 (U.S.) plus handling and shipping fees.

Without Pouch: Owner Manual only.

RETAIL SELL PRICE: $25.00 (U.S.) plus handling and shipping fees.

Current and Past Models

Technical Service Bulletins and Manuals are available for current and past model GM vehicles.

ORDER TOLL FREE:
1-800-551-4123 Monday - Friday
8:00 AM - 6:00 PM Eastern Time

For Credit Card Orders Only (VISA-MasterCard-Discover), visit Helm, Inc. at: www.helminc.com

Or write to:

Helm, Incorporated
Attention: Customer Service
47911 Halyard Drive
Plymouth, MI 48170

Prices are subject to change without notice and without incurring obligation. Allow ample time for delivery.

All listed prices are quoted in U.S. funds. Make checks payable in U.S. funds.

Radio Frequency Statement

This vehicle has systems that operate on a radio frequency that complies with Part 15/Part 18 of the Federal Communications Commission (FCC) rules and with Industry Canada Standards RSS-GEN/210/216/220/251/310, ICES-001.

Operation is subject to the following two conditions:

1. The device may not cause harmful interference.
2. The device must accept any interference received, including interference that may cause undesired operation of the device.

Changes or modifications to any of these systems by other than an authorized service facility could void authorization to use this equipment.

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Reporting Safety Defects

Reporting Safety Defects to the United States Government

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying General Motors.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or General Motors.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to *http://www.safercar.gov;* or write to:

Administrator, NHTSA
1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

You can also obtain other information about motor vehicle safety from *http://www.safercar.gov*.

Reporting Safety Defects to the Canadian Government

If you live in Canada, and you believe that the vehicle has a safety defect, notify Transport Canada immediately, and notify General Motors of Canada Company. Call Transport Canada at 1-800-333-0510 or write to:

Transport Canada
Road Safety Branch
80 rue Noel
Gatineau, QC J8Z 0A1

Reporting Safety Defects to General Motors

In addition to notifying NHTSA (or Transport Canada) in a situation like this, notify General Motors.

Call 1-800-222-1020, or write:

Chevrolet Motor Division
Chevrolet Customer
Assistance Center
P.O. Box 33170
Detroit, MI 48232-5170

In Canada, call 1-800-263-3777 (English) or 1-800-263-7854 (French), or write:

General Motors of Canada
Company
Customer Care Centre,
Mail Code: CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

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Vehicle Data Recording and Privacy

The vehicle has a number of computers that record information about the vehicle's performance and how it is driven. For example, the vehicle uses computer modules to monitor and control engine and electric drive unit performance, to monitor the conditions for airbag deployment and to deploy them in a crash, and, if equipped, to provide antilock braking to help the driver control the vehicle. These modules may store data to help the dealer technician service the vehicle. Some modules may also store data about how the vehicle is operated, such as rate of fuel consumption or average speed. These modules may retain personal preferences, such as radio presets, seat positions, and temperature settings.

Event Data Recorders

This vehicle is equipped with an event data recorder (EDR). The main purpose of an EDR is to record, in certain crash or near crash-like situations, such as an air bag deployment or hitting a road obstacle, data that will assist in understanding how a vehicle's systems performed. The EDR is designed to record data related to vehicle dynamics and safety systems for a short period of time, typically 30 seconds or less. The EDR in this vehicle is designed to record such data as:

- How various systems in your vehicle were operating;
- Whether or not the driver and passenger safety belts were buckled/fastened;
- How far (if at all) the driver was depressing the accelerator and/or brake pedal; and,
- How fast the vehicle was traveling.

These data can help provide a better understanding of the circumstances in which crashes and injuries occur.

Note

EDR data are recorded by your vehicle only if a non-trivial crash situation occurs; no data are recorded by the EDR under normal driving conditions and no personal data (e.g., name, gender, age, and crash location) are recorded. However, other parties, such as law enforcement, could combine the EDR data with the type of personally identifying data routinely acquired during a crash investigation.

To read data recorded by an EDR, special equipment is required, and access to the vehicle or the EDR is needed. In addition to the vehicle manufacturer, other parties, such as law enforcement, that have the special equipment, can read the information if they have access to the vehicle or the EDR.

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GM will not access these data or share it with others except: with the consent of the vehicle owner or, if the vehicle is leased, with the consent of the lessee; in response to an official request by police or similar government office; as part of GM's defense of litigation through the discovery process; or, as required by law. Data that GM collects or receives may also be used for GM research needs or may be made available to others for research purposes, where a need is shown and the data is not tied to a specific vehicle or vehicle owner.

OnStar®

If the vehicle is equipped with OnStar® and has an active subscription, additional data may be collected through the OnStar system. This includes information about the vehicle's operation; collisions involving the vehicle; the use of the vehicle and its features; and, in certain situations, the location and approximate GPS speed of the vehicle. Refer to the OnStar Terms and Conditions and Privacy Statement on the OnStar website.

See *OnStar Additional Information* ⇨ *360*.

Infotainment System

If the vehicle is equipped with a navigation system as part of the infotainment system, use of the system may result in the storage of destinations, addresses, telephone numbers, and other trip information. See the infotainment manual for information on stored data and for deletion instructions.

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OnStar

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OnStar Overview



Voice Command Button

Blue OnStar Button

Red Emergency Button

This vehicle may be equipped with a comprehensive, in-vehicle system that can connect to an OnStar Advisor for Emergency, Security, Navigation, Connections, and Diagnostics Services. OnStar services may require a paid subscription and data plan. OnStar requires the vehicle battery and electrical system, cellular service, and GPS satellite signals to be available and operating. OnStar acts as a link to existing emergency service providers. OnStar may collect information about you and your vehicle, including location information. See OnStar User Terms, Privacy Statement, and Software Terms for more details including system limitations at www.onstar.com (U.S.) or www.onstar.ca (Canada).

The OnStar system status light is next to the OnStar buttons. If the status light is:

- Solid Green: System is ready.
- Flashing Green: On a call.
- Red: Indicates a problem.
- Off: System is active. Press twice to speak with an OnStar Advisor.

Press or call 1-888-4ONSTAR (1-888-466-7827) to speak to an Advisor.

Press to:

- Make a call, end a call, or answer an incoming call.
- Give OnStar Hands-Free Calling voice commands.
- Give OnStar Turn-by-Turn Navigation voice commands.

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- Obtain and customize the Wi-Fi® hotspot name or SSID and password, if equipped.

Press On to connect to an Advisor to:

- Verify account information or update contact information.
- Get driving directions.
- Receive a Diagnostic check of the vehicle's key operating systems.
- Receive Roadside Assistance.
- Manage Wi-Fi Settings, if equipped.

Press SOS to get a priority connection to an OnStar Advisor available 24/7 to:

- Get help for an emergency.
- Be a Good Samaritan or respond to an AMBER Alert.
- Get assistance in severe weather or other crisis situations and find evacuation routes.

OnStar Services

Emergency

Emergency Services require an active, OnStar service plan (excludes Basic Plan). With Automatic Crash Response, built-in sensors can automatically alert a specially trained OnStar Advisor who is immediately connected in to the vehicle to help.

Press SOS for a priority connection to an OnStar Advisor who can contact emergency service providers, direct them to your exact location, and relay important information.

With OnStar Crisis Assist, specially trained Advisors are available 24 hours a day, 7 days a week, to provide a central point of contact, assistance, and information during a crisis.

With Roadside Assistance, Advisors can locate a nearby service provider to help with a flat tire, a battery jump, or an empty gas tank.

Security

If equipped, OnStar provides these services:

- With Stolen Vehicle Assistance, OnStar Advisors can use GPS to pinpoint the vehicle and help authorities quickly recover it.
- With Remote Ignition Block™, if equipped, OnStar can block the engine from being restarted.
- With Stolen Vehicle Slowdown®, if equipped, OnStar can work with law enforcement to gradually slow the vehicle down.

Theft Alarm Notification

If equipped, if the doors are locked and the vehicle alarm sounds, a notification by text, e-mail, or phone call will be sent. If the vehicle is stolen, an OnStar Advisor can work with authorities to recover the vehicle.

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Navigation

OnStar navigation requires a specific OnStar service plan.

Press to receive Turn-by-Turn directions or have them sent to the vehicle's navigation screen, if equipped.

Turn-by-Turn Navigation

1. Press to connect to an Advisor.
2. Request directions to be downloaded to the vehicle.
3. Follow the voice-guided commands.

Using Voice Commands During a Planned Route

Cancel Route

1. Press . System responds: "OnStar ready," then a tone.
2. Say "Cancel route." System responds: "Do you want to cancel directions?"
3. Say "Yes." System responds: "OK, request completed, thank you, goodbye."

Route Preview

1. Press . System responds: "OnStar ready," then a tone.
2. Say "Route preview." System responds with the next three maneuvers.

Repeat

1. Press . System responds: "OnStar ready," then a tone.
2. Say "Repeat." System responds with the last direction given, then responds with "OnStar ready," then a tone.

Get My Destination

1. Press . System responds: "OnStar ready," then a tone.
2. Say "Get my destination." System responds with the address and distance to the destination, then responds with "OnStar ready," then a tone.

Send Destination to Vehicle

Subscribers can have directions sent to the vehicle's navigation screen, if equipped.

Press , then ask the Advisor to download directions to the vehicle's navigation system, if equipped. After the call ends, the navigation screen will provide prompts to begin driving directions. Routes that are sent to the navigation screen can only be canceled through the navigation system.

See www.onstar.com (U.S.) or www.onstar.ca (Canada).

Connections

The following OnStar services help with staying connected.

For coverage maps, see www.onstar.com (U.S.) or www.onstar.ca (Canada).

Ensuring Security

- Change the default passwords for the Wi-Fi hotspot and RemoteLink mobile application. Make these passwords different

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from each other and use a combination of letters, numbers, and symbols to increase the security.

- Change the default name of the SSID (Service Set Identifier). This is your network's name that is visible to other wireless devices. Choose a unique name and avoid family names or vehicle descriptions.

OnStar Wi-Fi® Hotspot (If Equipped)

The vehicle may have a built-in Wi-Fi hotspot that provides access to the Internet and web content at 4G LTE speed. Up to seven mobile devices can be connected. A data plan is required. Use the in-vehicle controls only when it is safe to do so.

1. To retrieve Wi-Fi hotspot information, press , wait for the prompt, then say "Wi-Fi settings." On some vehicles, touch Wi-Fi Settings on the screen.
2. The Wi-Fi settings will display the Wi-Fi hotspot name (SSID), password, and on some vehicles, the connection type (no Internet connection, 3G, 4G, 4G LTE), and signal quality (poor, good, excellent).
3. To change the SSID or password, press or call 1-888-4ONSTAR to connect with an Advisor.

After initial set-up, your vehicle's Wi-Fi hotspot will connect automatically to your mobile devices. Manage data usage by turning Wi-Fi on or off on your mobile device, using the RemoteLink mobile app, or by contacting an OnStar Advisor.

OnStar RemoteLink® Mobile App (If Equipped)

Download the OnStar RemoteLink mobile app to select Apple® iOS, Android™, BlackBerry®, or Windows® mobile devices.

OnStar Subscribers can access the following services from a mobile device:

- Remotely start/stop the vehicle, if factory-equipped.
- Lock/unlock doors, if equipped with automatic locks.
- Activate the horn and lamps.
- Check the vehicle's fuel level, oil life, or tire pressure, if factory-equipped with the Tire Pressure Monitor System.
- Send directions to the vehicle.
- Locate the vehicle on a map (U.S. market only).
- Turn the vehicle's Wi-Fi hotspot on/off, manage settings, and monitor data consumption, if equipped.

For OnStar RemoteLink information and compatibility, see www.onstar.com (U.S.) or www.onstar.ca (Canada).

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Remote Services

Contact an OnStar Advisor to unlock the doors or sound the horn and flash the lamps.

OnStar AtYourService

OnStar Advisors can provide offers from restaurants and retailers on your route, help locate hotels, or book a room. These services vary by market.

OnStar Hands-Free Calling

Make and receive calls with the built-in wireless calling service, which requires available minutes.

Make a Call

1. Press . System responds: “OnStar ready.”
2. Say “Call.” System responds: “Call. Please say the name or number to call.”
3. Say the entire number without pausing, including a “1” and the area code. System responds: “OK, calling.”

Calling 911 Emergency

1. Press . System responds: “OnStar ready.”
2. Say “Call.” System responds: “Call. Please say the name or number to call.”
3. Say “911” without pausing. System responds: “911.”
4. Say “Call.” System responds: “OK, dialing 911.”

Retrieve My Number

1. Press . System responds: “OnStar ready.”
2. Say “My number.” System responds: “Your OnStar Hands-Free Calling number is,” then says the number.

End a Call

Press . System responds: “Call ended.”

Verify Minutes and Expiration

Press and say “Minutes” then “Verify” to check how many minutes remain and their expiration date.

Diagnostics

Advanced Diagnostics provides a status of the vehicle’s key systems with a monthly e-mail or by pressing . The Proactive Alerts feature (if available) can help predict and alert of potential upcoming maintenance issues with select components on the vehicle, before they become a problem.

OnStar can also monitor and report tire pressure, if the vehicle is equipped with a Tire Pressure Monitoring System.

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OnStar Additional Information

In-Vehicle Audio Messages

Audio messages may play important information at the following times:

- Prior to vehicle purchase. Press to set up an account.
- With the OnStar Basic Plan, every 60 days.
- After change in ownership and at 90 days.

Transferring Service

Press to request account transfer eligibility information. The Advisor can cancel or change account information.

Selling/Transferring the Vehicle

Call 1-888-4ONSTAR (1-888-466-7827) immediately to terminate your OnStar services if the vehicle is disposed of, sold, transferred, or if the lease ends.

Reactivation for Subsequent Owners

Press and follow the prompts to speak to an Advisor as soon as possible. The Advisor will update vehicle records and explain OnStar service options.

How OnStar Service Works

Automatic Crash Response, Emergency Services, Crisis Assist, Stolen Vehicle Assistance, Advanced Vehicle Diagnostics, Remote Services, Roadside Assistance, Turn-by-Turn Navigation, and Hands-Free Calling are available on most vehicles. Not all OnStar services are available everywhere or on all vehicles. For more information, a full description of OnStar services, system limitations, and OnStar User Terms, Privacy Statement, and Software Terms:

- Call 1-888-4ONSTAR (1-888-466-7827).
- See www.onstar.com (U.S.).
- See www.onstar.ca (Canada).
- Call TTY 1-877-248-2080.
- Press to speak with an Advisor.

OnStar services cannot work unless the vehicle is in a place where OnStar has an agreement with a wireless service provider for service in that area. The wireless service provider must also have coverage, network capacity, reception, and technology compatible with OnStar services. Service involving location information about the vehicle cannot work unless GPS signals are available, unobstructed, and compatible with the OnStar hardware. OnStar services may not work if the OnStar equipment is not properly installed or it has not been properly maintained. If equipment or software is added, connected, or modified, OnStar services may not work. Other problems beyond the control of OnStar — such as hills, tall buildings, tunnels, weather, electrical system design and architecture of the vehicle, damage

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to the vehicle in a crash, or wireless phone network congestion or jamming — may prevent service.

See *Radio Frequency Statement* ⇨ *351*.

Services for People with Disabilities

Advisors provide services to help Subscribers with physical disabilities and medical conditions.

Press to help:

- Locate a gas station with an attendant to pump gas.
- Find a hotel, restaurant, etc., that meets accessibility needs.
- Provide directions to the closest hospital or pharmacy in urgent situations.

TTY Users

OnStar has the ability to communicate to deaf, hard-of-hearing, or speech-impaired customers while in the vehicle. The available dealer-installed TTY system can provide in-vehicle access to all OnStar services, except Virtual Advisor and OnStar Turn-by-Turn Navigation.

OnStar Personal Identification Number (PIN)

A PIN is needed to access some OnStar services. The PIN will need to be changed the first time when speaking with an Advisor. To change the OnStar PIN, contact an OnStar Advisor by pressing or calling 1-888-4ONSTAR.

Warranty

OnStar equipment may be warranted as part of the vehicle warranty.

Languages

The vehicle can be programmed to respond in multiple languages. Press and ask for an Advisor. Advisors are available in English, Spanish, and French. Available languages may vary by country.

Potential Issues

OnStar cannot perform Remote Door Unlock or Stolen Vehicle Assistance after the vehicle has been off continuously for 10 days without an ignition cycle. If the vehicle has not been started for five days, OnStar can contact Roadside Assistance or a locksmith to help gain access to the vehicle.

Global Positioning System (GPS)

- Obstruction of the GPS can occur in a large city with tall buildings; in parking garages; around airports; in tunnels and underpasses; or in an area with very dense trees. If GPS signals are not available, the OnStar system should still operate to call OnStar. However, OnStar could have difficulty identifying the exact location.
- In emergency situations, OnStar can use the last stored GPS location to send to emergency responders.

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A temporary loss of GPS can cause loss of the ability to send a Turn-by-Turn Navigation route. The Advisor may give a verbal route or may ask for a call back after the vehicle is driven into an open area.

Cellular and GPS Antennas

Cellular reception is required for OnStar to send remote signals to the vehicle. Do not place items over or near the antenna to prevent blocking cellular and GPS signal reception.

Unable to Connect to OnStar Message

If there is limited cellular coverage or the cellular network has reached maximum capacity, this message may come on. Press to try the call again or try again after driving a few miles into another cellular area.

Vehicle and Power Issues

OnStar services require a vehicle electrical system, wireless service, and GPS satellite technologies to be available and operating for features to function properly. These systems may not operate if the battery is discharged or disconnected.

Add-on Electrical Equipment

The OnStar system is integrated into the electrical architecture of the vehicle. Do not add any electrical equipment. See *Add-On Electrical Equipment* ⇨ *234*. Added electrical equipment may interfere with the operation of the OnStar system and cause it to not operate.

Vehicle Software Updates

OnStar or GM may remotely deliver software updates or changes to the vehicle without further notice or consent. These updates or changes may enhance or maintain safety, security, or the operation of the vehicle or the vehicle systems. Software updates or changes may affect or erase data or settings that are stored in the vehicle, such as OnStar Hands-Free Calling name tags, saved navigation destinations, or pre-set radio stations. Neither OnStar nor GM is responsible for any affected or erased data or settings. These updates or changes may also collect personal information. Such collection is described in the OnStar privacy statement or separately disclosed at the time of installation. These updates or changes may also cause a system to automatically communicate with GM servers to collect information about vehicle system status, identify whether updates or changes are available, or deliver updates or changes. An active OnStar agreement constitutes consent to these software updates or changes and agreement that either OnStar or GM may remotely deliver them to the vehicle.

Privacy

The complete OnStar Privacy Statement may be found at www.onstar.com (U.S.), or www.onstar.ca (Canada). We recommend that you review it. If you have any questions, call 1-888-4ONSTAR (1-888-466-7827) or press to speak with an Advisor. Users of wireless communications are cautioned that

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the privacy of any information sent via wireless cellular communications cannot be assured. Third parties may unlawfully intercept or access transmissions and private communications without consent.

OnStar - Software Acknowledgements

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libcurl:

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